STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3
AMENDED REPORT ☑

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER NBU 1022-7F1CS	
2. TYPE OF WORK DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○	**3. FIELD OR WILDCAT** NATURAL BUTTES
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO	**5. UNIT or COMMUNITIZATION AGREEMENT NAME** NATURAL BUTTES
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.	**7. OPERATOR PHONE** 720 929-6515
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217	**9. OPERATOR E-MAIL** julie.jacobson@anadarko.com
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML 23609	**11. MINERAL OWNERSHIP** FEDERAL ○ INDIAN ○ STATE ◉ FEE ○
	12. SURFACE OWNERSHIP FEDERAL ○ INDIAN ○ STATE ◉ FEE ○
13. NAME OF SURFACE OWNER (if box 12 = 'fee')	**14. SURFACE OWNER PHONE (if box 12 = 'fee')**
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')	**16. SURFACE OWNER E-MAIL (if box 12 = 'fee')**
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')	**18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS** YES ◉ (Submit Commingling Application) NO ○
	19. SLANT VERTICAL ○ DIRECTIONAL ◉ HORIZONTAL ○

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1057 FNL 2063 FWL	NENW	7	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	1733 FNL 1976 FWL	SENW	7	10.0 S	22.0 E	S
At Total Depth	1733 FNL 1976 FWL	SENW	7	10.0 S	22.0 E	S

21. COUNTY UINTAH	**22. DISTANCE TO NEAREST LEASE LINE (Feet)** 1733	**23. NUMBER OF ACRES IN DRILLING UNIT** 294
	25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 715	**26. PROPOSED DEPTH** MD: 9257 TVD: 9171
27. ELEVATION - GROUND LEVEL 5163	**28. BOND NUMBER** 22013542	**29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE** Permit #43-8496

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2370	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 9257	11.6	I-80 Buttress	12.0	Premium Lite High Strength	280	3.38	11.0
							50/50 Poz	1030	1.31	14.3

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	☑ COMPLETE DRILLING PLAN
☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
☑ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	☑ TOPOGRAPHICAL MAP

NAME Andy Lytle	**TITLE** Regulatory Analyst	**PHONE** 720 929-6100
SIGNATURE	**DATE** 12/28/2010	**EMAIL** andrew.lytle@anadarko.com

API NUMBER ASSIGNED
43047514380000

APPROVAL

Permit Manager

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Kerr-McGee Oil & Gas Onshore. L.P.

NBU 1022-7F1CS

Surface: 1057 FNL / 2063 FWL NENW
BHL: 1733 FNL / 1976 FWL SENW

Section 7 T10S R22E

Unitah County, Utah
Mineral Lease: UT ST ML 23609

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1201	
Birds Nest	1560	Water
Mahogany	1922	Water
Wasatch	4436	Gas
Mesaverde	7039	Gas
MVU2	7097	Gas
MVL1	8540	Gas
TVD	9171	
TD	9257	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

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7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 9,171' TVD, approximately equals 5,619 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 3,601 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. Anticipated Starting Dates:

9. Variances:

Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background
In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

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The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie

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line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

Please refer to the attached Drilling Program.

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API Well Number: 43047514380000

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 28, 2010	
WELL NAME	**NBU 1022-7F1CS**		TD	9,171' TVD	9,257' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah	FINISHED ELEVATION	5,161'
SURFACE LOCATION	NENW	1057 FNL	2063 FWL	Sec 7	T 10S R 22E
	Latitude:	39.96783	Longitude:	-109.482448	NAD 27
BTM HOLE LOCATION	SENW	1733 FNL	1976 FWL	Sec 7	T 10S R 22E
	Latitude:	39.965976	Longitude:	-109.482745	NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			11"	8-5/8", 28#, IJ-55, LTC	Air mist

All water flows encountered while drilling will be reported to the appropriate agencies.

Green River @	1,201'
Top of Birds Nest @	1,560'
Mahogany @	1,922'
Preset f/ GL @	2,370' MD

Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

Wasatch @	4,436'

Mud logging program TBD

Cased hole logging program from TD - surf csg

Mverde @	7,039' TVD
MVU2 @	7,097' TVD
MVU1 @	8,540' TVD

			7-7/8"	4-1/2" 11.6# I-80 or equivalent BTC csg	Water / Fresh Water Mud 8.3-12.0 ppg

Max anticipated Mud required 12.0 ppg

TD @ 9,171' TVD 9,257' MD

NBU 1022-7C Directional Program Template.xls

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API Well Number: 43047514380000

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'								
								3,390	1,880	348,000
SURFACE	8-5/8"	0	to	2,370	28.00	IJ-55	LTC	0.91	1.69	5.19
								7,780	6,350	278,000
PRODUCTION	4-1/2"	0	to	9,257	11.60	I-80	BTC	2.10	1.11	2.97

*Burst on suface casing is controlled by fracture gradient as shoe with gas gradient above. D.F. = 2.27

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)
(Burst Assumptions: TD = 12.0 ppg) 0.22 psi/ft = gradient for partially evac wellbore
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
MASP 3,601 psi

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD
(Burst Assumptions: TD = 12.0 ppg) 0.61 psi/ft = bottomhole gradient
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
MABHP 5,619 psi

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		**NOTE: If well will circulate water to surface, option 2 will be utilized**					
Option 2	LEAD	1,870'	65/35 Poz + 6% Gel + 10 pps gilsonite	170	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,927'	Premium Lite II +0.25 pps	280	10%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,330'	50/50 Poz/G + 10% salt + 2% gel	1,030	10%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER: _____ **DATE:** _____
Emile Goodwin / Perry Daughtrey

DRILLING SUPERINTENDENT: _____ **DATE:** _____
John Merkel / Lovel Young

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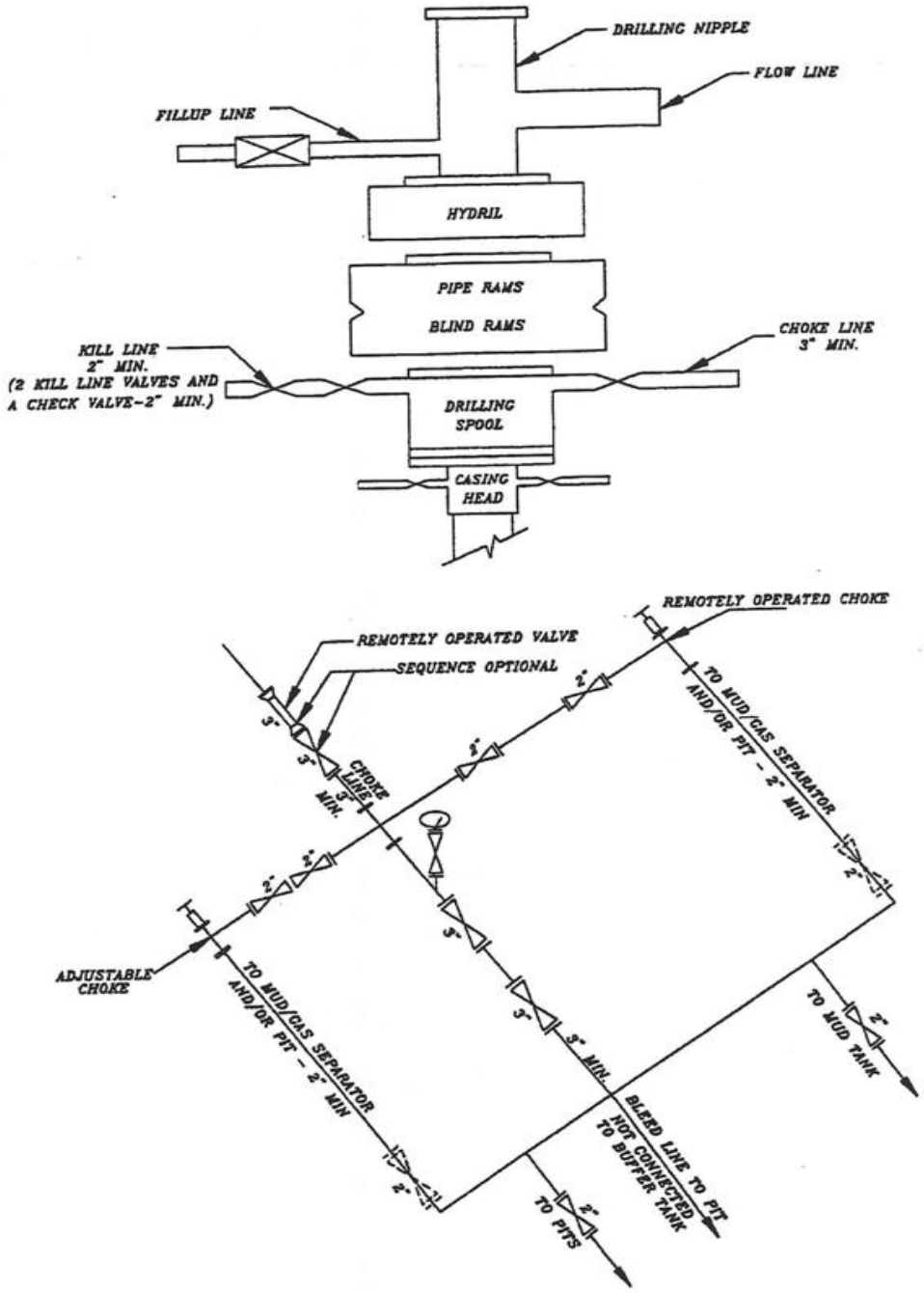
EXHIBIT A
NBU 1022-7F1CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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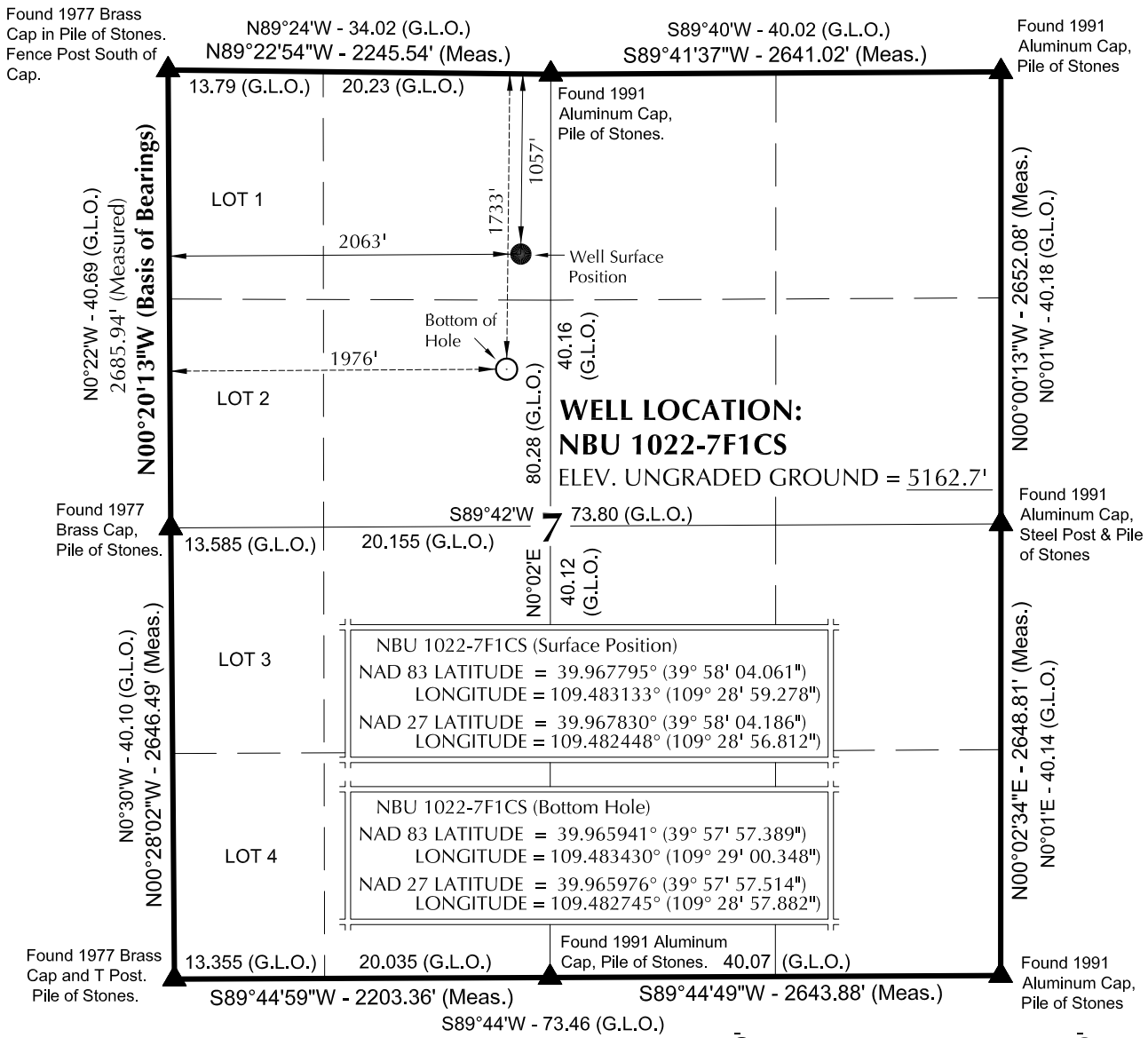
API Well Number: 43047514380000

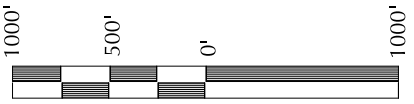
T10S, R22E, S.L.B.&M.



NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S07°02'41"W 680.44' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



SCALE

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PROFESSIONAL LAND SURVEYOR No.6028691 JOHN R LAUGHLIN STATE OF UTAH

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD: NBU 1022-7C

NBU 1022-7F1CS
WELL PLAT
1733' FNL, 1976' FWL (Bottom Hole)
SE ¼ NW ¼ OF SECTION 7, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 10-21-10	SURVEYED BY: M.S.B.	SHEET NO: 4
DATE DRAWN: 10-27-10	DRAWN BY: B.M.	4 OF 18
SCALE: 1" = 1000'	Date Last Revised: 12-14-10 M.W.W.	

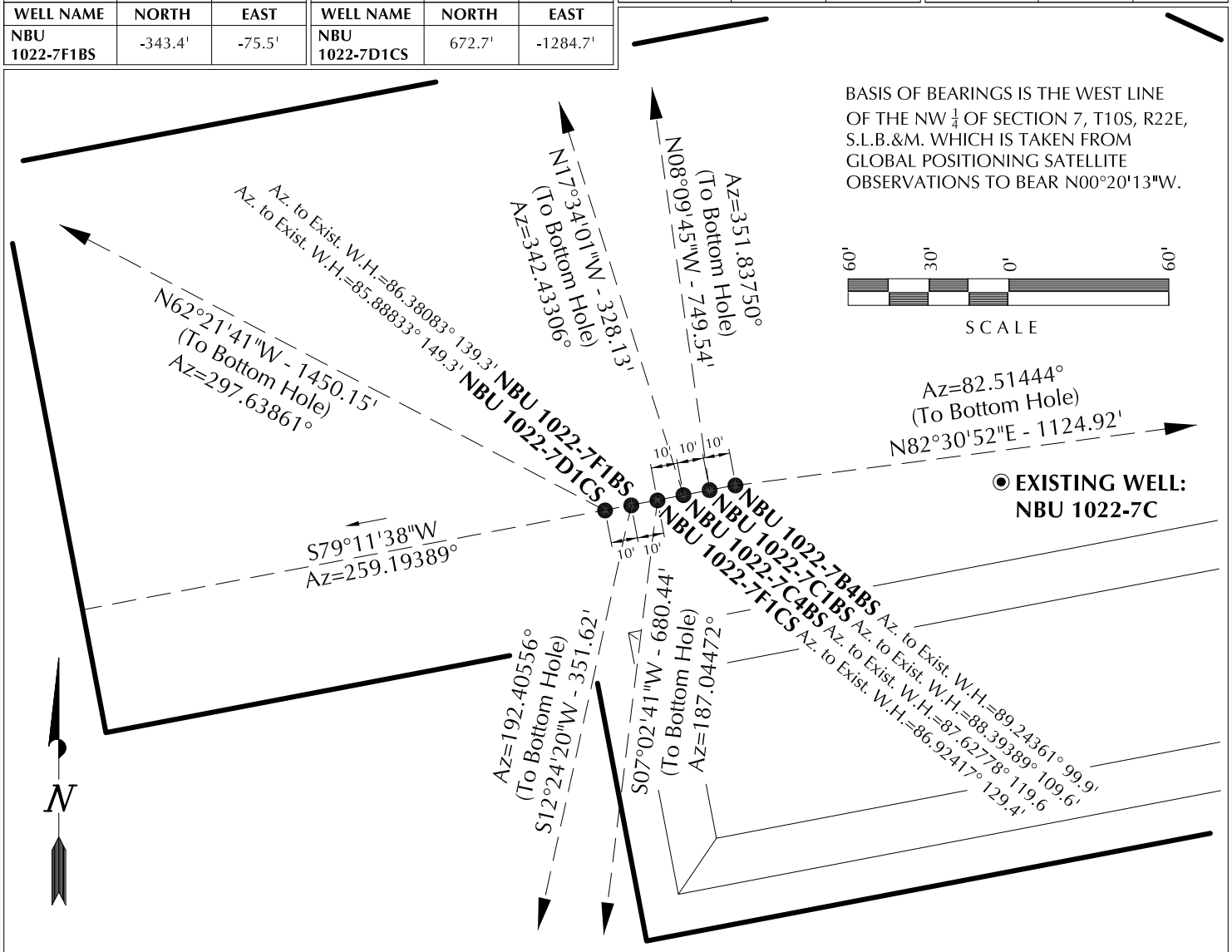
RECEIVED: Dec. 28, 2010

API Well Number: 43047514380000

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1022-7B4BS	39°58'04.117" 39.967810°	109°28'58.902" 109.483028°	39°58'04.242" 39.967845°	109°28'56.436" 109.482343°	1051' FNL 2093' FWL	39°58'05.567" 39.968213°	109°28'44.581" 109.479050°	39°58'05.692" 39.968248°	109°28'42.115" 109.478365°	908' FNL 1672' FEL
NBU 1022-7C1BS	39°58'04.100" 39.967805°	109°28'59.026" 109.483063°	39°58'04.225" 39.967840°	109°28'56.560" 109.482378°	1053' FNL 2083' FWL	39°58'11.430" 39.969842°	109°29'00.395" 109.483443°	39°58'11.555" 39.969876°	109°28'57.929" 109.482758°	312' FNL 1981' FWL
NBU 1022-7C4BS	39°58'04.081" 39.967800°	109°28'59.153" 109.483098°	39°58'04.206" 39.967835°	109°28'56.687" 109.482413°	1055' FNL 2073' FWL	39°58'07.172" 39.968659°	109°29'00.425" 109.483451°	39°58'07.297" 39.968693°	109°28'57.959" 109.482766°	743' FNL 1976' FWL
NBU 1022-7F1CS	39°58'04.061" 39.967795°	109°28'59.278" 109.483133°	39°58'04.186" 39.967830°	109°28'56.812" 109.482448°	1057' FNL 2063' FWL	39°57'57.389" 39.965941°	109°29'00.348" 109.483430°	39°57'57.514" 39.965976°	109°28'57.882" 109.482745°	1733' FNL 1976' FWL
NBU 1022-7F1BS	39°58'04.043" 39.967790°	109°28'59.405" 109.483168°	39°58'04.168" 39.967824°	109°28'56.939" 109.482483°	1059' FNL 2054' FWL	39°58'00.650" 39.966847°	109°29'00.374" 109.483437°	39°58'00.775" 39.966882°	109°28'57.907" 109.482752°	1403' FNL 1976' FWL
NBU 1022-7D1CS	39°58'04.024" 39.967784°	109°28'59.531" 109.483203°	39°58'04.149" 39.967819°	109°28'57.065" 109.482518°	1061' FNL 2044' FWL	39°58'10.667" 39.969630°	109°29'16.029" 109.487786°	39°58'10.793" 39.969665°	109°29'13.562" 109.487101°	402' FNL 763' FWL
NBU 1022-7C	39°58'04.130" 39.967814°	109°28'57.619" 109.482672°	39°58'04.255" 39.967849°	109°28'55.153" 109.481987°	1049' FNL 2193' FWL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST
NBU 1022-7B4BS	146.6'	1115.3'
NBU 1022-7C1BS	741.9'	-106.4'
NBU 1022-7C4BS	312.8'	-99.0'
NBU 1022-7F1CS	-675.3'	-83.5'
NBU 1022-7F1BS	-343.4'	-75.5'
NBU 1022-7D1CS	672.7'	-1284.7'



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-7C

WELL PAD INTERFERENCE PLAT
WELLS - NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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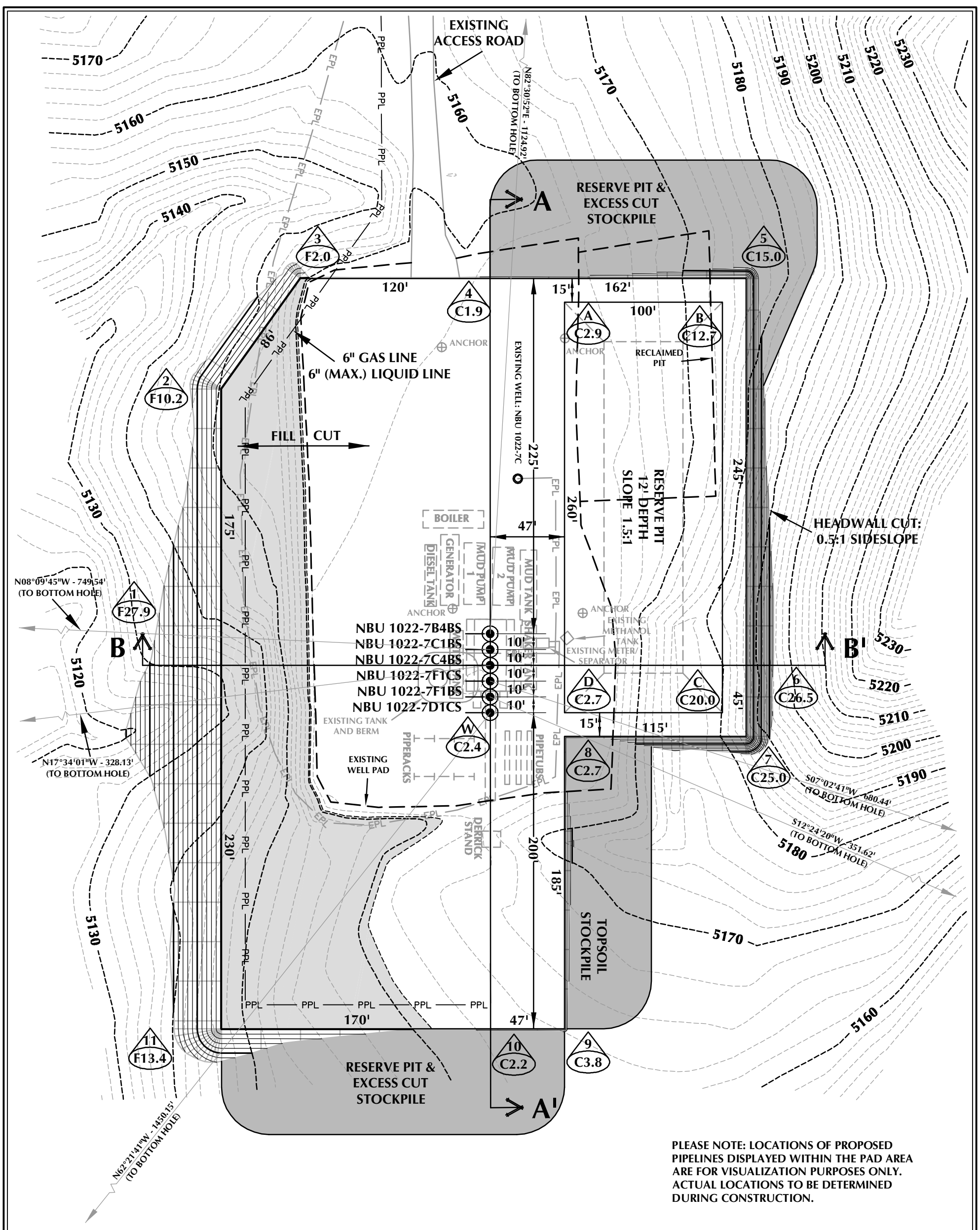
DATE SURVEYED: 10-21-10	SURVEYED BY: M.S.B.	SHEET NO: 7
DATE DRAWN: 10-27-10	DRAWN BY: B.M.	7 OF 18
SCALE: 1" = 60'	Date Last Revised: 12-14-10 M.W.W.	

RECEIVED: Dec. 28, 2010



PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

WELL PAD - NBU 1022-7C DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5162.7'
FINISHED GRADE ELEVATION = 5160.3'
CUT SLOPES = 0.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.63 ACRES
TOTAL DAMAGE AREA = 6.20 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-7C

WELL PAD - LOCATION LAYOUT
NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 19,253 C.Y.
TOTAL FILL FOR WELL PAD = 17,963 C.Y.
TOPSOIL @ 6" DEPTH = 1,846 C.Y.
EXCESS MATERIAL = 1,290 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 8,870 CY
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 33,770 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

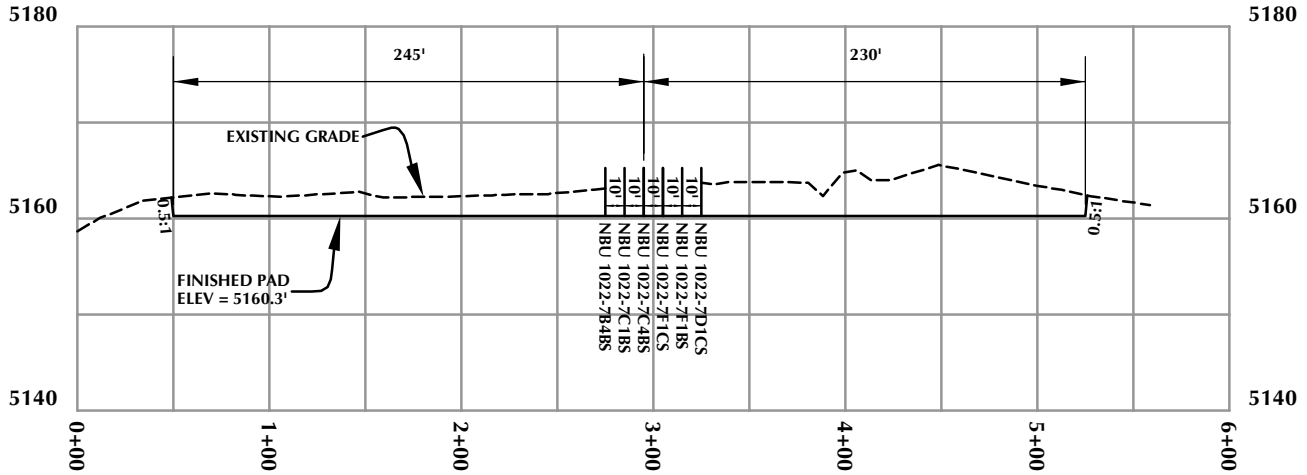
HORIZONTAL 0 30' 60' 1" = 60'
2' CONTOURS

TIMBERLINE ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078
(435) 789-1365

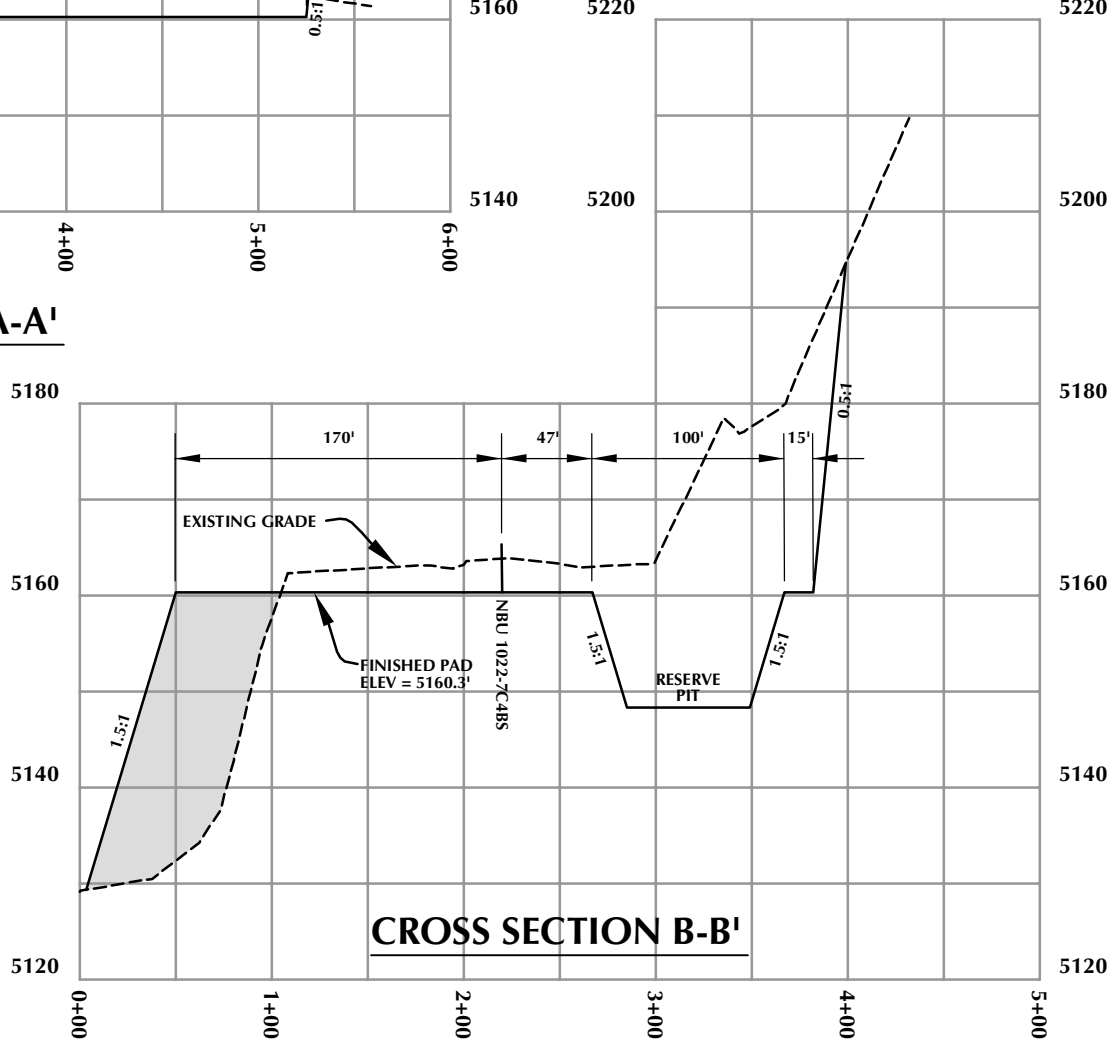
Scale: 1"=60' | Date: 11/5/10 | SHEET NO: 8 8 OF 18
REVISED: JFE 1/12/11

RECEIVED: Dec. 28, 2010

API Well Number: 43047514380000



CROSS SECTION A-A'



CROSS SECTION B-B'

HORIZONTAL 0 50' 100' 1" = 100'

VERTICAL 0 10' 20' 1" = 20'

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-7C

WELL PAD - CROSS SECTIONS
NBU 1022-7B4BS, NBU 1022-7C1BS,
NBU 1022-7C4BS, NBU 1022-7F1CS,
NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

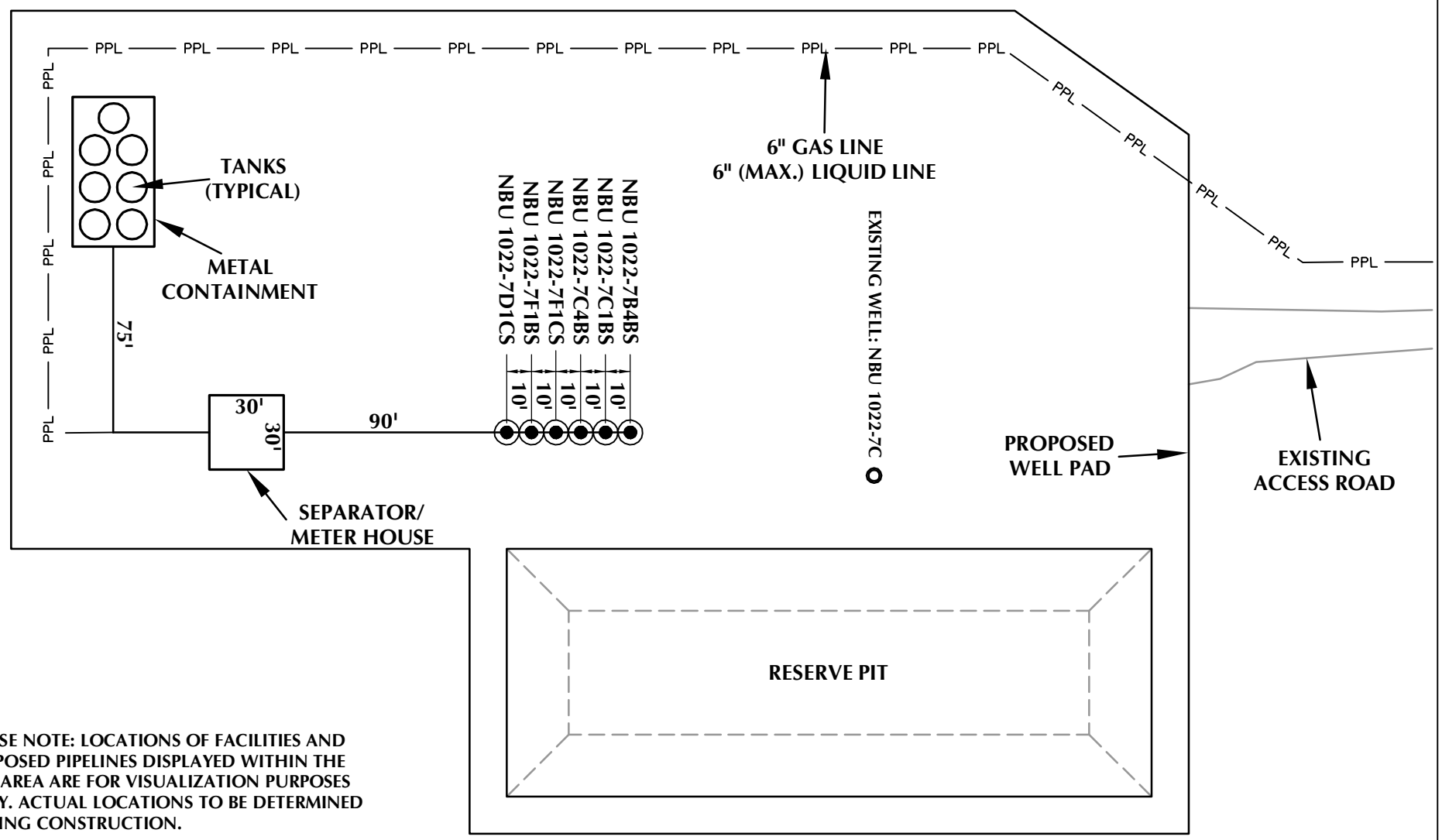
609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=100' | Date: 11/5/10 | SHEET NO: 9
REVISED: JFE 1/12/11 | 9 OF 18

K:\ANADARKO\2010_55_NBU_FOCUS_SEC_1022-7\DWG\NBU_1022-7C\NBU_1022-7C_PAD_20101025.dwg

RECEIVED: Dec. 28, 2010



PLEASE NOTE: LOCATIONS OF FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-7C

WELL PAD - FACILITIES DIAGRAM
NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

HORIZONTAL 0 30' 60' 1" = 60'

TIMBERLINE ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078
(435) 789-1365

Scale: 1"=60' | Date: 11/5/10 | REVISED:

SHEET NO: 10 10 OF 18

K:\ANADARKO\2010_55_NBU_FOCUS_SEC_1022-7\DWG\NBU_1022-7C\NBU_1022-7C_PAD_20101025.dwg, 11/9/2010 4:27:55 PM, jake

RECEIVED: Dec. 28, 2010

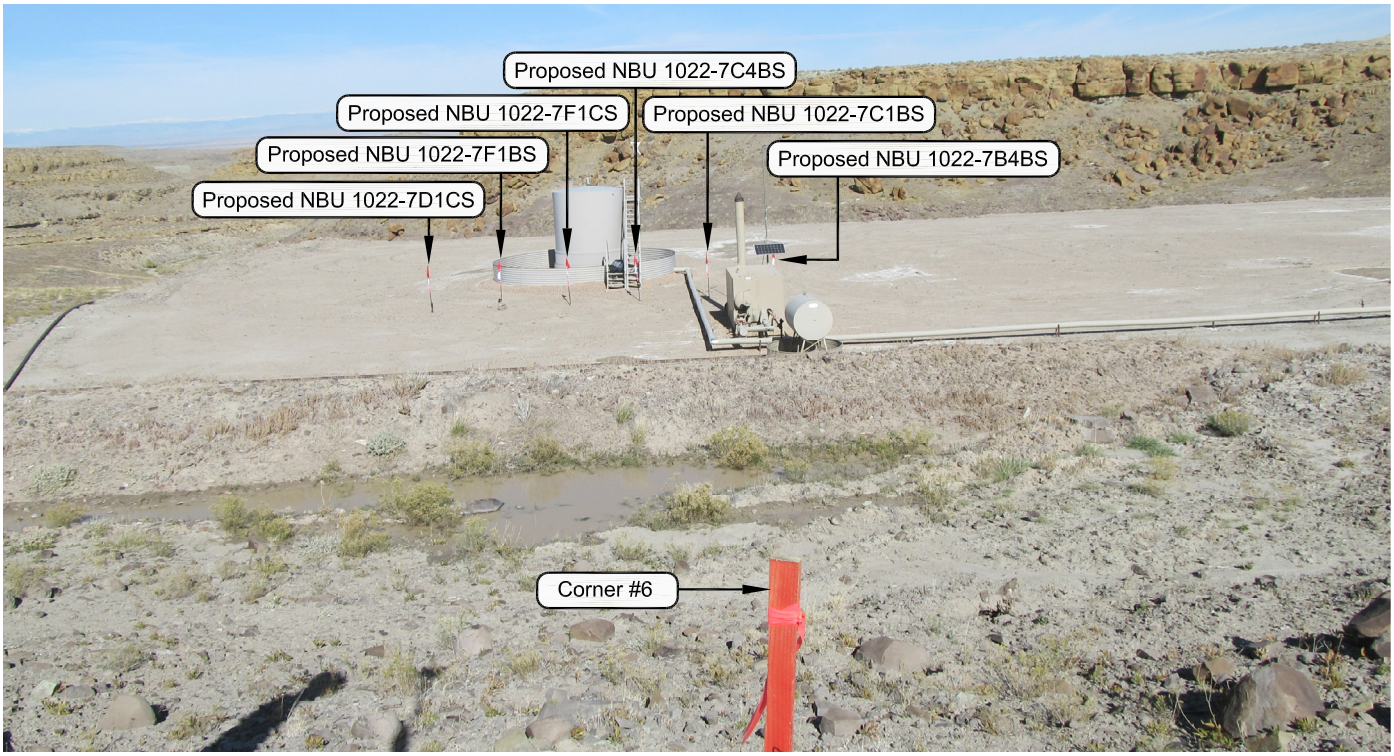


PHOTO VIEW: FROM CORNER #6 TO LOCATION STAKE **CAMERA ANGLE: NORTHERLY**

PHOTO VIEW: FROM EXISTING ACCESS ROAD **CAMERA ANGLE: SOUTHWESTERLY**

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-7C

LOCATION PHOTOS
NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

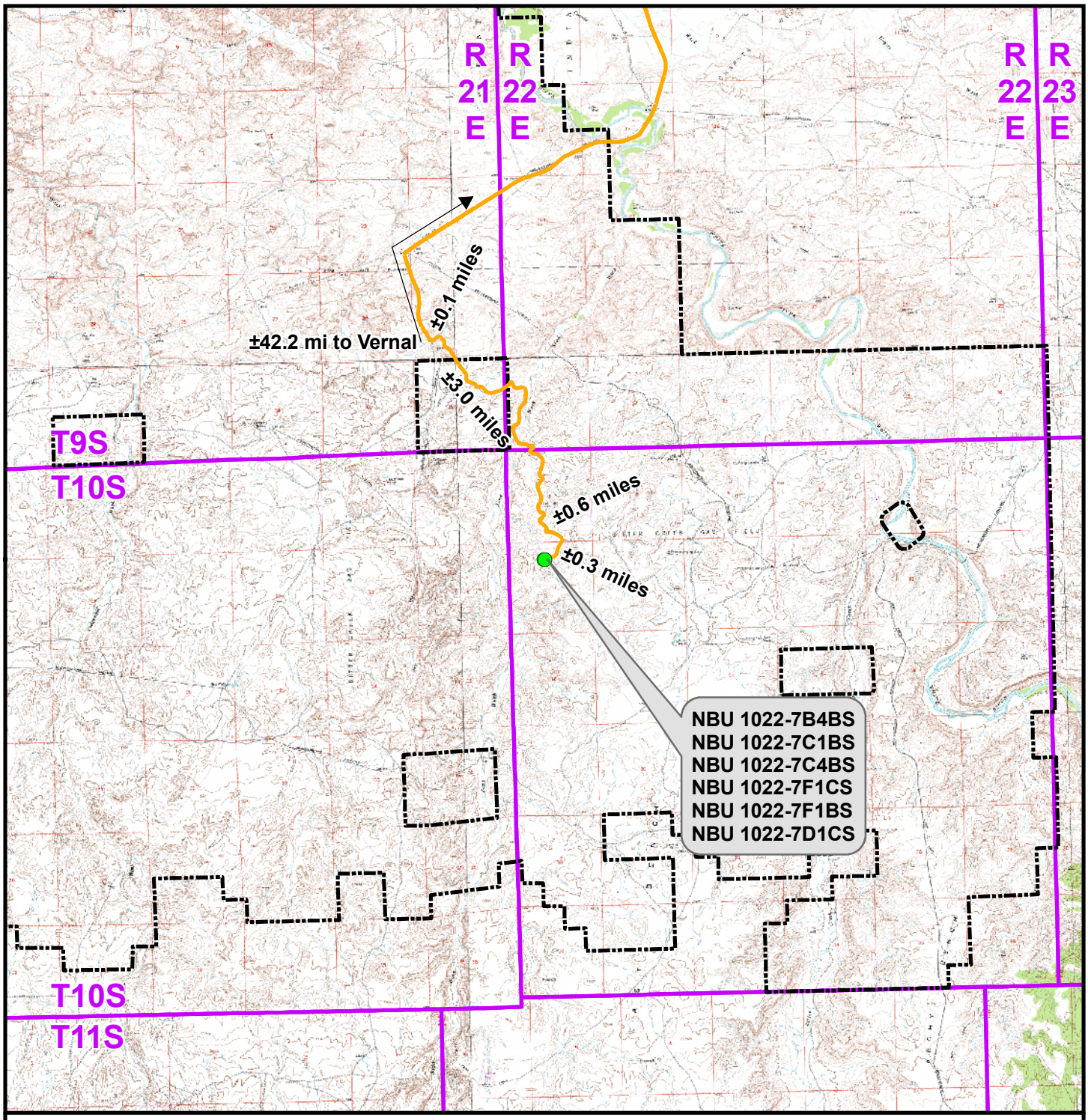
609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 10-21-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO: 11
DATE DRAWN: 10-27-10	DRAWN BY: B.M.	11 OF 18
Date Last Revised:		

RECEIVED: Dec. 28, 2010

API Well Number: 43047514380000



Legend

Distance From Well Pad - NBU 1022-7C To Unit Boundary: ±6,710ft

Proposed Well Location

Natural Buttes Unit Boundary

Access Route - Proposed

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-7C

TOPO A
NBU 1022-7B4BS, NBU 1022-7C1BS,
NBU 1022-7C4BS, NBU 1022-7F1CS,
NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

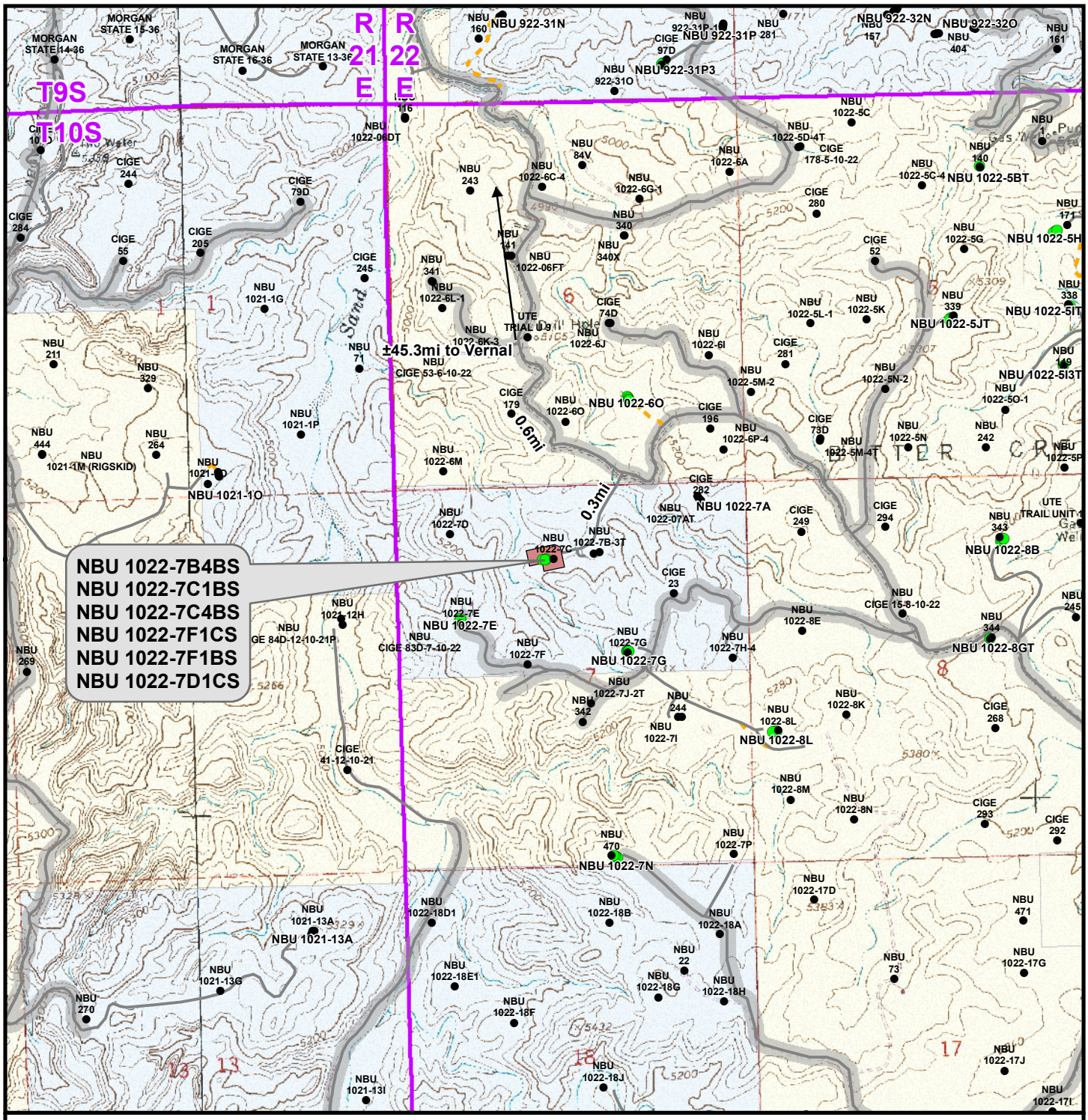
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1:100,000	NAD83 USP Central	Sheet No: 12	12 of 18
Drawn: TL	Date: 5 Nov 2010		
Revised:	Date:		

RECEIVED: Dec. 28, 2010

API Well Number: 43047514380000



Legend

Total Proposed Road Length: ±0ft

- Well - Proposed
- Well - Existing
- Well Pad
- Road - Proposed
- Road - Existing
- County Road
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-7C

TOPO B

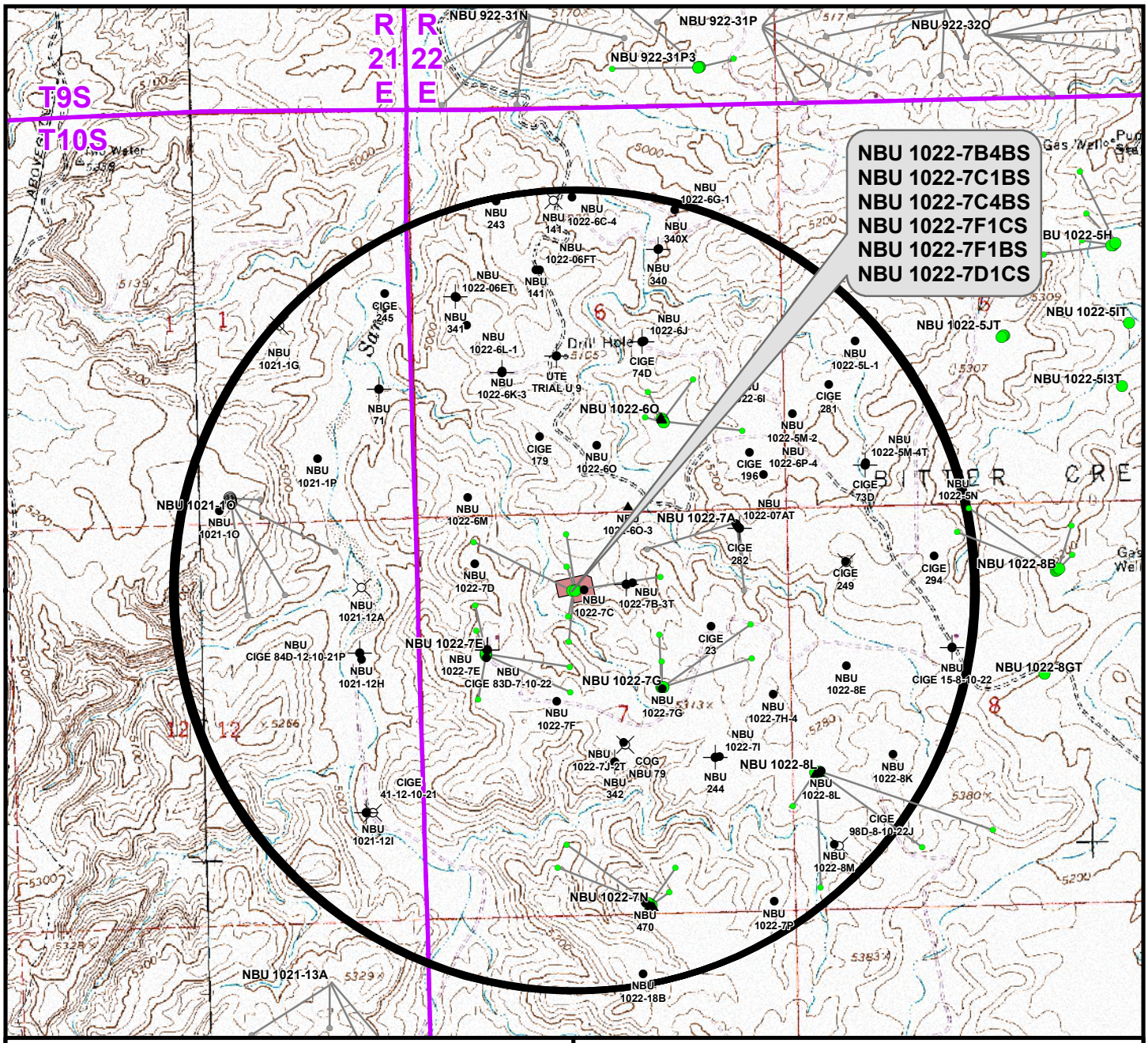
NBU 1022-7B4BS, NBU 1022-7C1BS,
NBU 1022-7C4BS, NBU 1022-7F1CS,
NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 13	13 of 18
Drawn: TL	Date: 5 Nov 2010		
Revised:	Date:		

RECEIVED: Dec. 28, 2010



Proposed Well	Nearest Well Bore	Footage
NBU 1022-7B4BS	NBU 1022-7B-3T	375ft
NBU 1022-7C1BS	NBU 1022-7C	770ft
NBU 1022-7C4BS	NBU 1022-7C	377ft

Proposed Well	Nearest Well Bore	Footage
NBU 1022-7F1CS	NBU 1022-7C	715ft
NBU 1022-7F1BS	NBU 1022-7C	413ft
NBU 1022-7D1CS	NBU 1022-7D	284ft

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Well Pad
- Well Path
- Bottom Hole - Existing
- Well - 1 Mile Radius

- Producing
- Active
- Spudded (Drilling commenced: Not yet completed)
- Approved permit (APD); not yet spudded
- New Permit (Not yet approved or drilled)
- Inactive
- Drilling Operations Suspended
- Temporarily-Abandoned
- Shut-In
- Plugged and Abandoned
- Location Abandoned
- Dry hole marker, buried
- Returned APD (Unapproved)

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-7C

TOPO C

NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

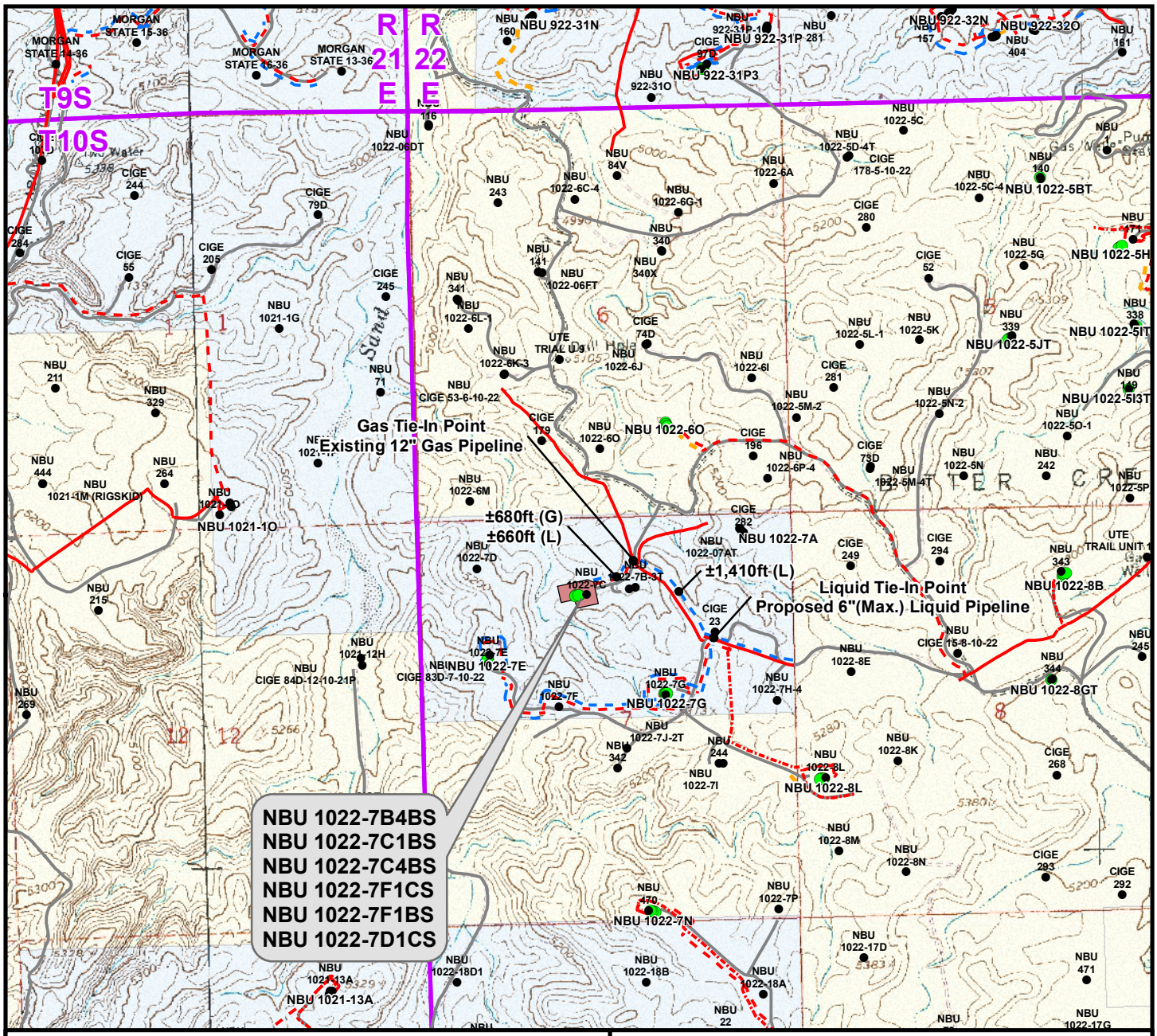
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 14 of 18
Drawn: TL	Date: 5 Nov 2010	
Revised:	Date:	

RECEIVED: Dec. 28, 2010

API Well Number: 43047514380000



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±755ft
Proposed 6" (Max.) (Edge of Pad to 7G Intersection)	±2,070ft
TOTAL PROPOSED LIQUID PIPELINE =	±2,825ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±755ft
Proposed 6" (Edge of Pad to Existing 12" Pipeline)	±680ft
TOTAL PROPOSED GAS PIPELINE =	±1,435ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-7C

TOPO D

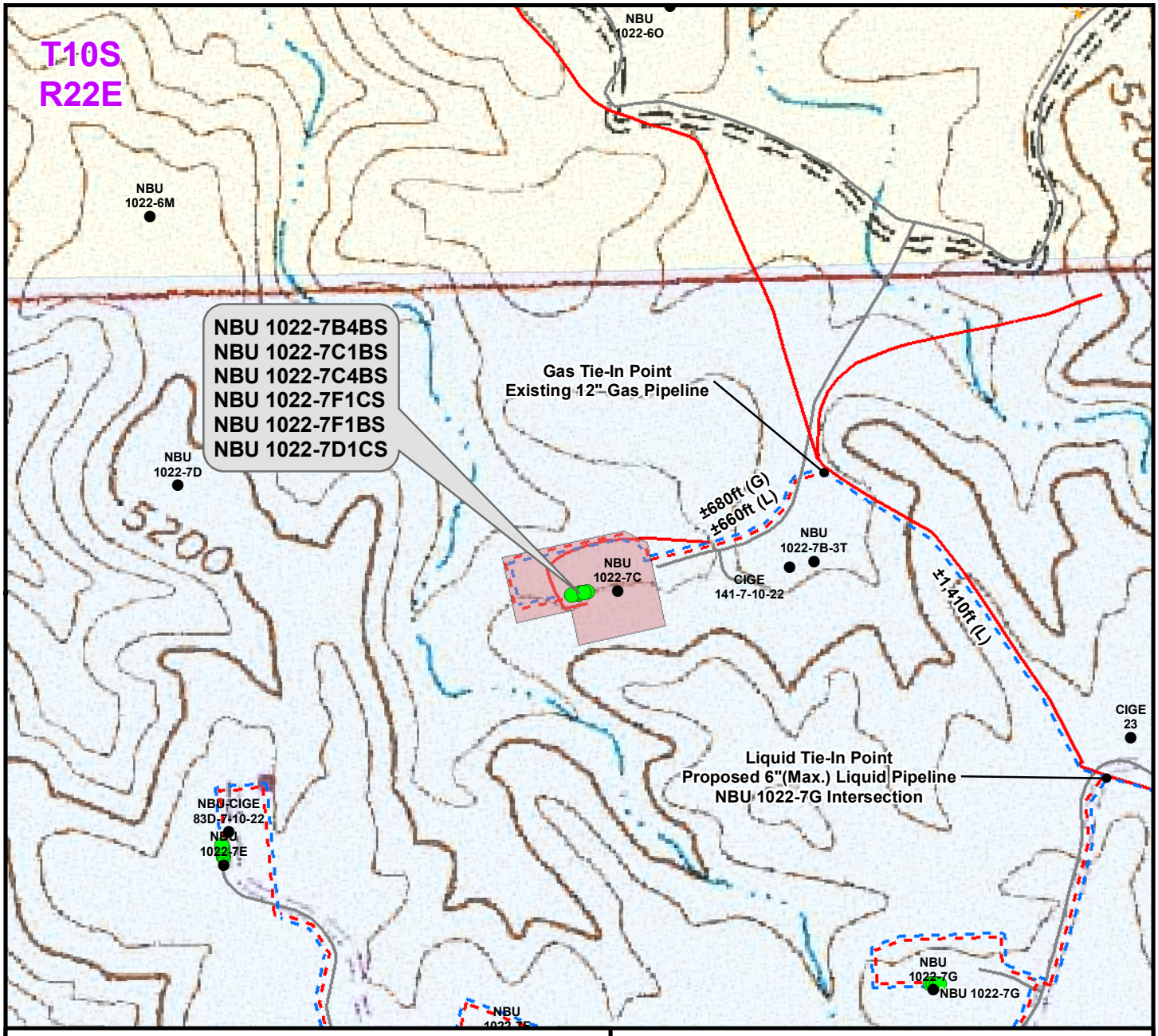
NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 5 Nov 2010	15 of 18
Revised:	Date:	

RECEIVED: Dec. 28, 2010



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±755ft
Proposed 6" (Max.) (Edge of Pad to 7G Intersection)	±2,070ft
TOTAL PROPOSED LIQUID PIPELINE =	±2,825ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±755ft
Proposed 6" (Edge of Pad to Existing 12" Pipeline)	±680ft
TOTAL PROPOSED GAS PIPELINE =	±1,435ft

Legend

Well - Proposed; Well - Existing; Well Pad; Gas Pipeline - Proposed; Gas Pipeline - To Be Upgraded; Gas Pipeline - Existing; Liquid Pipeline - Proposed; Liquid Pipeline - To Be Upgraded; Liquid Pipeline - Existing; Road - Proposed; Road - Existing; Bureau of Land Management; Indian Reservation; State; Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-7C

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-7B4BS, NBU 1022-7C1BS,
NBU 1022-7C4BS, NBU 1022-7F1CS,
NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

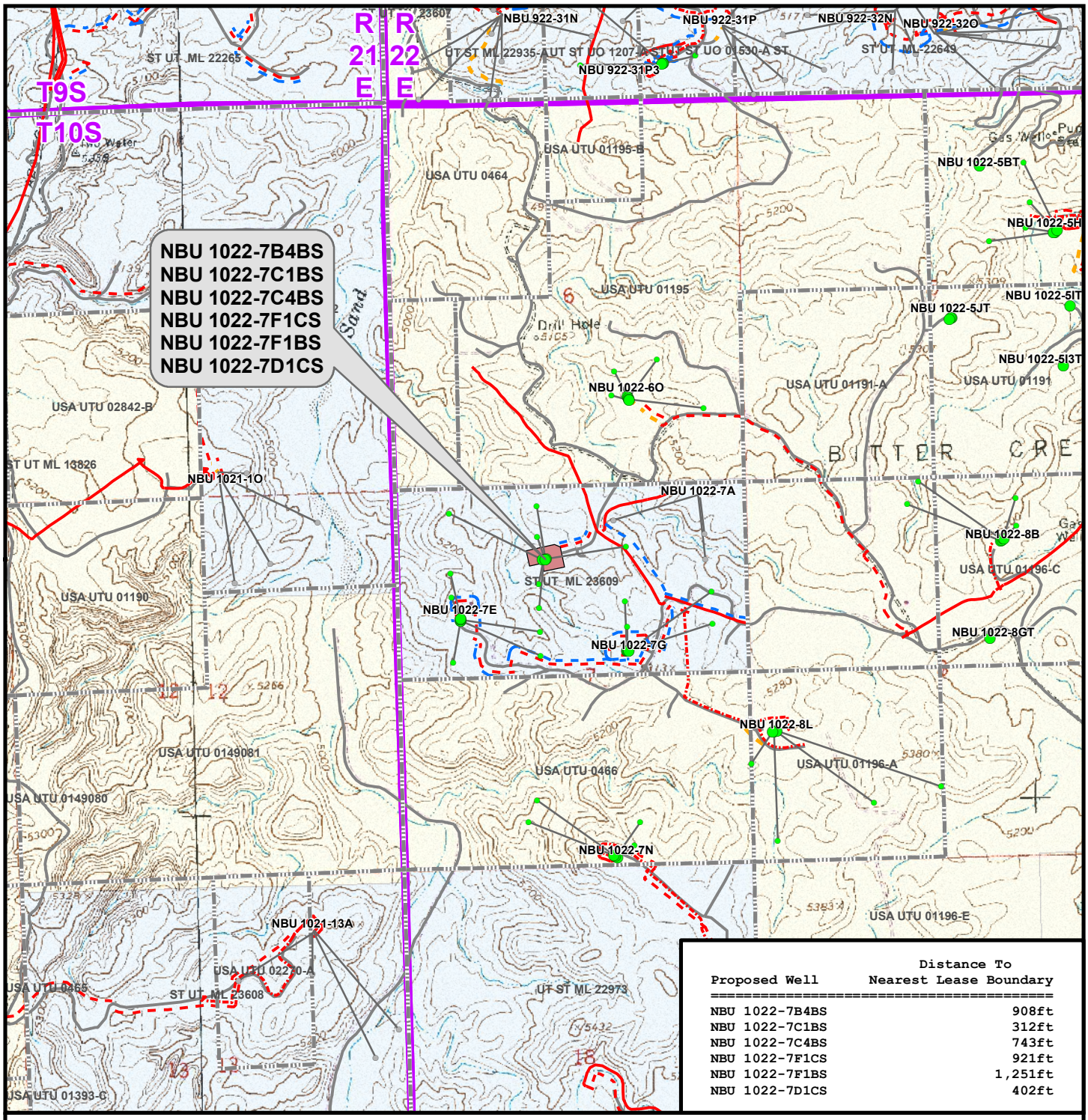
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 500ft	NAD83 USP Central	Sheet No: 16 of 18
Drawn: TL	Date: 5 Nov 2010	
Revised:	Date:	

RECEIVED: Dec. 28, 2010

API Well Number: 43047514380000



Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-7B4BS	908ft
NBU 1022-7C1BS	312ft
NBU 1022-7C4BS	743ft
NBU 1022-7F1CS	921ft
NBU 1022-7F1BS	1,251ft
NBU 1022-7D1CS	402ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-7C

TOPO E
NBU 1022-7B4BS, NBU 1022-7C1BS,
NBU 1022-7C4BS, NBU 1022-7F1CS,
NBU 1022-7F1BS & NBU 1022-7D1CS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 17	17 of 18
Drawn: TL	Date: 5 Nov 2010		
Revised:	Date:		

RECEIVED: Dec. 28, 2010

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD - NBU 1022-7C
WELLS – NBU 1022-7B4BS, NBU 1022-7C1BS,
NBU 1022-7C4BS, NBU 1022-7F1CS,
NBU 1022-7F1BS & NBU 1022-7D1CS
Section 7, T10S, R22E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.7 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly then easterly then southerly direction along the second Class D County Road approximately 3.0 miles to a third Class D County Road to the southeast. Exit left and proceed in a southeasterly direction along the third Class D County Road approximately 0.6 miles to a service road to the southwest. Exit right and proceed in a southwesterly direction along the service road approximately 0.3 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 46.2 miles in a southerly direction.

RECEIVED: Dec. 28, 2010

API Well Number: 43047514380000

Scientific Drilling
Rocky Mountain Operations

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-7C PAD
Well: P_NBU 1022-7F1CS
Wellbore: P_NBU 1022-7F1CS
Design: PLAN #1 12-9-10 RHS

Anadarko E&P Company LP

WELL DETAILS: P_NBU 1022-7F1CS

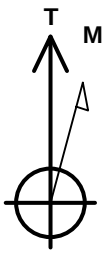
GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14517947.68	2065627.94	39° 58' 4.186 N	109° 28' 56.812 W

DESIGN TARGET DETAILS

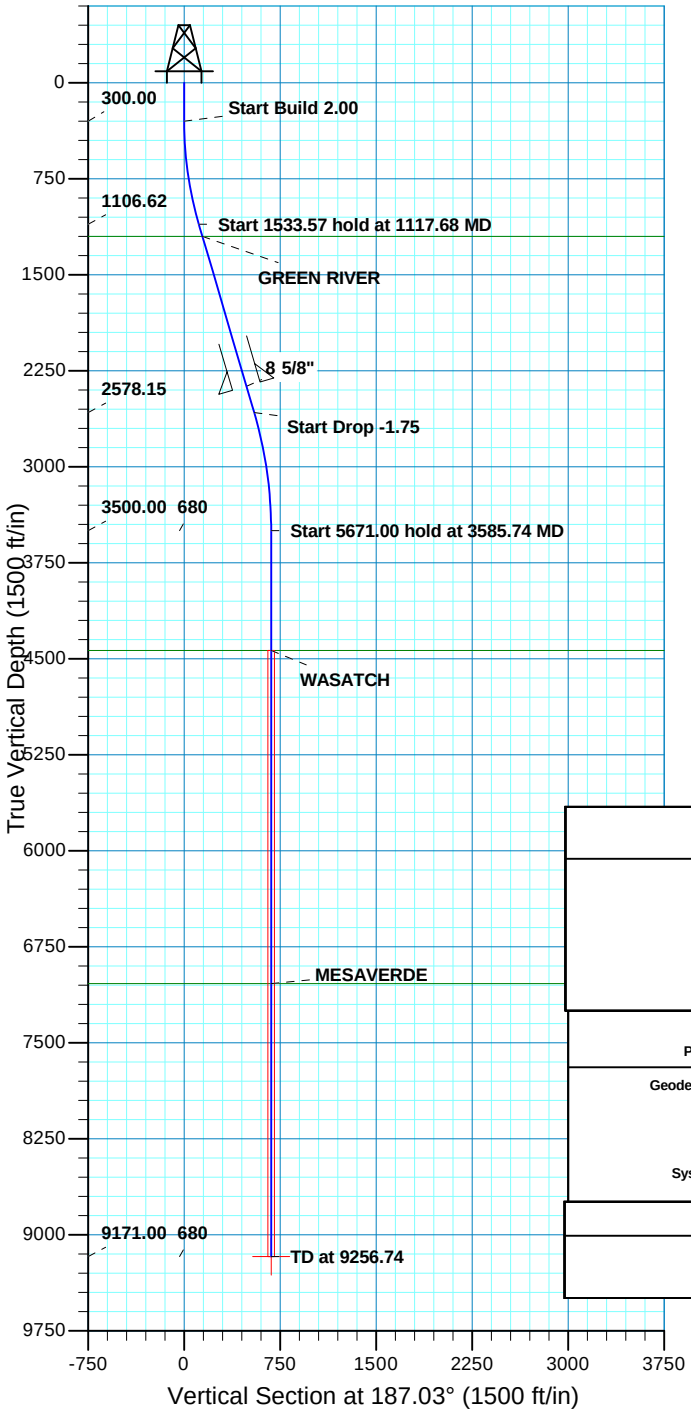
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	9171.00	-675.04	-83.30	14517271.32	2065556.14	39° 57' 57.514 N	109° 28' 57.882 W	Circle (Radius: 25.00)

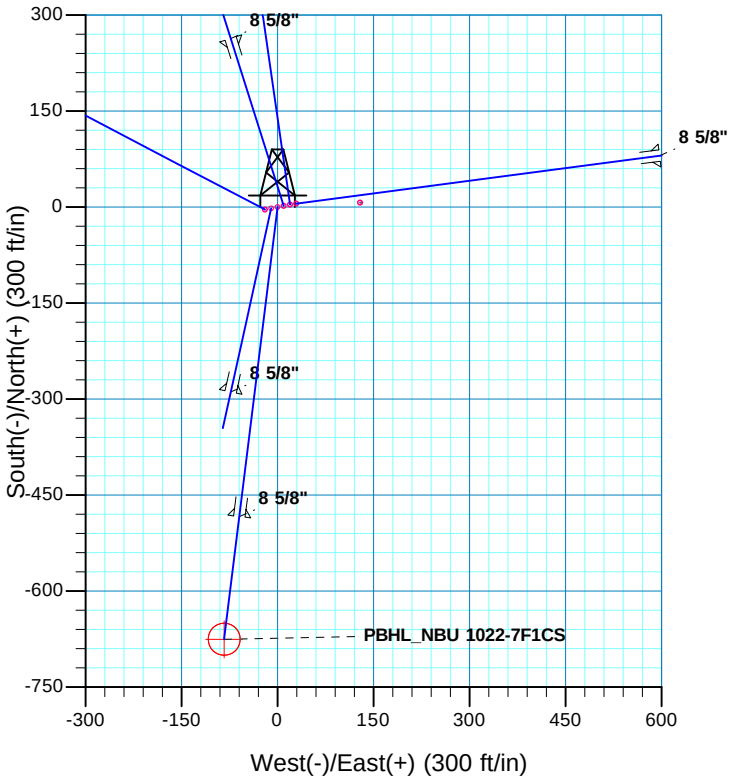
- plan hits target center



Azimuths to True North
Magnetic North: 11.13°

Magnetic Field
Strength: 52363.5snT
Dip Angle: 65.86°
Date: 12/10/2010
Model: IGRF2010





SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1117.68	16.35	187.03	1106.62	-115.03	-14.19	2.00	187.03	115.90	
2651.25	16.35	187.03	2578.15	-543.58	-67.08	0.00	0.00	547.70	
3585.74	0.00	0.00	3500.00	-675.04	-83.30	1.75	180.00	680.16	
9256.74	0.00	0.00	9171.00	-675.04	-83.30	0.00	0.00	680.16	PBHL_NBU 1022-7F1CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 7 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1201.00	1216.04	GREEN RIVER
4436.00	4521.74	WASATCH
7039.00	7124.74	MESAVERDE

CASING DETAILS

TVD	MD	Name	Size
2372.00	2436.41	8 5/8"	8.625

Plan: PLAN #1 12-9-10 RHS (P_NBU 1022-7F1CS/P_NBU 1022-7F1CS)

Created By: RobertScott Date: 14:11, December 16 2010

RECEIVED: Dec. 28, 2010

Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
UINTAH_NBU 1022-7C PAD
P_NBU 1022-7F1CS

P_NBU 1022-7F1CS

Plan: PLAN #1 12-9-10 RHS

Standard Planning Report

16 December, 2010

Anadarko E&P Company LP

RECEIVED: Dec. 28, 2010

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well P_NBU 1022-7F1CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Site:	UINTAH_NBU 1022-7C PAD	**North Reference:**	True
Well:	P_NBU 1022-7F1CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 1022-7F1CS		
Design:	PLAN #1 12-9-10 RHS		

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site UINTAH_NBU 1022-7C PAD, SECTION 7 T10S R22E

Site Position:		**Northing:**	14,517,947.68 usft	**Latitude:**	39° 58' 4.186 N
From:	Lat/Long	**Easting:**	2,065,627.94 usft	**Longitude:**	109° 28' 56.812 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.98 °

Well P_NBU 1022-7F1CS

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,517,947.68 usft	**Latitude:**	39° 58' 4.186 N
	+E/-W	0.00 ft	**Easting:**	2,065,627.94 usft	**Longitude:**	109° 28' 56.812 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,161.00 ft

Wellbore P_NBU 1022-7F1CS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/10/2010	11.13	65.86	52,363

Design PLAN #1 12-9-10 RHS

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	187.03

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,117.68	16.35	187.03	1,106.62	-115.03	-14.19	2.00	2.00	0.00	187.03	
2,651.25	16.35	187.03	2,578.15	-543.58	-67.08	0.00	0.00	0.00	0.00	
3,585.74	0.00	0.00	3,500.00	-675.04	-83.30	1.75	-1.75	0.00	180.00	
9,256.74	0.00	0.00	9,171.00	-675.04	-83.30	0.00	0.00	0.00	0.00	PBHL_NBU 1022-7F1

Scientific Drilling
Rocky Mountain Operations

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Planning Report

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well P_NBU 1022-7F1CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Site:	UINTAH_NBU 1022-7C PAD	**North Reference:**	True
Well:	P_NBU 1022-7F1CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 1022-7F1CS		
Design:	PLAN #1 12-9-10 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	187.03	399.98	-1.73	-0.21	1.75	2.00	2.00	0.00
500.00	4.00	187.03	499.84	-6.93	-0.85	6.98	2.00	2.00	0.00
600.00	6.00	187.03	599.45	-15.58	-1.92	15.69	2.00	2.00	0.00
700.00	8.00	187.03	698.70	-27.67	-3.41	27.88	2.00	2.00	0.00
800.00	10.00	187.03	797.47	-43.19	-5.33	43.52	2.00	2.00	0.00
900.00	12.00	187.03	895.62	-62.13	-7.67	62.60	2.00	2.00	0.00
1,000.00	14.00	187.03	993.06	-84.46	-10.42	85.10	2.00	2.00	0.00
1,100.00	16.00	187.03	1,089.64	-110.14	-13.59	110.98	2.00	2.00	0.00
1,117.68	16.35	187.03	1,106.62	-115.03	-14.19	115.90	2.00	2.00	0.00
Start 1533.57 hold at 1117.68 MD									
1,200.00	16.35	187.03	1,185.61	-138.03	-17.03	139.08	0.00	0.00	0.00
1,216.04	16.35	187.03	1,201.00	-142.52	-17.59	143.60	0.00	0.00	0.00
GREEN RIVER									
1,300.00	16.35	187.03	1,281.57	-165.98	-20.48	167.24	0.00	0.00	0.00
1,400.00	16.35	187.03	1,377.52	-193.92	-23.93	195.39	0.00	0.00	0.00
1,500.00	16.35	187.03	1,473.48	-221.87	-27.38	223.55	0.00	0.00	0.00
1,600.00	16.35	187.03	1,569.43	-249.81	-30.83	251.71	0.00	0.00	0.00
1,700.00	16.35	187.03	1,665.38	-277.76	-34.27	279.86	0.00	0.00	0.00
1,800.00	16.35	187.03	1,761.34	-305.70	-37.72	308.02	0.00	0.00	0.00
1,900.00	16.35	187.03	1,857.29	-333.64	-41.17	336.18	0.00	0.00	0.00
2,000.00	16.35	187.03	1,953.25	-361.59	-44.62	364.33	0.00	0.00	0.00
2,100.00	16.35	187.03	2,049.20	-389.53	-48.07	392.49	0.00	0.00	0.00
2,200.00	16.35	187.03	2,145.16	-417.48	-51.52	420.64	0.00	0.00	0.00
2,300.00	16.35	187.03	2,241.11	-445.42	-54.96	448.80	0.00	0.00	0.00
2,400.00	16.35	187.03	2,337.06	-473.37	-58.41	476.96	0.00	0.00	0.00
2,436.41	16.35	187.03	2,372.00	-483.54	-59.67	487.21	0.00	0.00	0.00
8 5/8"									
2,500.00	16.35	187.03	2,433.02	-501.31	-61.86	505.11	0.00	0.00	0.00
2,600.00	16.35	187.03	2,528.97	-529.26	-65.31	533.27	0.00	0.00	0.00
2,651.25	16.35	187.03	2,578.15	-543.58	-67.08	547.70	0.00	0.00	0.00
Start Drop -1.75									
2,700.00	15.50	187.03	2,625.03	-556.85	-68.72	561.08	1.75	-1.75	0.00
2,800.00	13.75	187.03	2,721.78	-581.91	-71.81	586.33	1.75	-1.75	0.00
2,900.00	12.00	187.03	2,819.26	-604.03	-74.54	608.61	1.75	-1.75	0.00
3,000.00	10.25	187.03	2,917.38	-623.18	-76.90	627.90	1.75	-1.75	0.00
3,100.00	8.50	187.03	3,016.04	-639.34	-78.89	644.19	1.75	-1.75	0.00
3,200.00	6.75	187.03	3,115.15	-652.51	-80.52	657.46	1.75	-1.75	0.00
3,300.00	5.00	187.03	3,214.62	-662.67	-81.77	667.70	1.75	-1.75	0.00
3,400.00	3.25	187.03	3,314.36	-669.81	-82.65	674.89	1.75	-1.75	0.00
3,500.00	1.50	187.03	3,414.27	-673.92	-83.16	679.04	1.75	-1.75	0.00
3,585.74	0.00	0.00	3,500.00	-675.04	-83.30	680.16	1.75	-1.75	0.00
Start 5671.00 hold at 3585.74 MD									
3,600.00	0.00	0.00	3,514.26	-675.04	-83.30	680.16	0.00	0.00	0.00
3,700.00	0.00	0.00	3,614.26	-675.04	-83.30	680.16	0.00	0.00	0.00
3,800.00	0.00	0.00	3,714.26	-675.04	-83.30	680.16	0.00	0.00	0.00
3,900.00	0.00	0.00	3,814.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,000.00	0.00	0.00	3,914.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,100.00	0.00	0.00	4,014.26	-675.04	-83.30	680.16	0.00	0.00	0.00

Scientific Drilling
Rocky Mountain Operations

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Planning Report

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well P_NBU 1022-7F1CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Site:	UINTAH_NBU 1022-7C PAD	**North Reference:**	True
Well:	P_NBU 1022-7F1CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 1022-7F1CS		
Design:	PLAN #1 12-9-10 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.00	0.00	0.00	4,114.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,300.00	0.00	0.00	4,214.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,400.00	0.00	0.00	4,314.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,500.00	0.00	0.00	4,414.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,521.74	0.00	0.00	4,436.00	-675.04	-83.30	680.16	0.00	0.00	0.00
WASATCH									
4,600.00	0.00	0.00	4,514.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,700.00	0.00	0.00	4,614.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,800.00	0.00	0.00	4,714.26	-675.04	-83.30	680.16	0.00	0.00	0.00
4,900.00	0.00	0.00	4,814.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,000.00	0.00	0.00	4,914.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,100.00	0.00	0.00	5,014.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,200.00	0.00	0.00	5,114.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,300.00	0.00	0.00	5,214.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,400.00	0.00	0.00	5,314.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,500.00	0.00	0.00	5,414.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,600.00	0.00	0.00	5,514.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,700.00	0.00	0.00	5,614.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,800.00	0.00	0.00	5,714.26	-675.04	-83.30	680.16	0.00	0.00	0.00
5,900.00	0.00	0.00	5,814.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,000.00	0.00	0.00	5,914.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,100.00	0.00	0.00	6,014.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,200.00	0.00	0.00	6,114.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,300.00	0.00	0.00	6,214.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,400.00	0.00	0.00	6,314.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,500.00	0.00	0.00	6,414.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,600.00	0.00	0.00	6,514.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,700.00	0.00	0.00	6,614.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,800.00	0.00	0.00	6,714.26	-675.04	-83.30	680.16	0.00	0.00	0.00
6,900.00	0.00	0.00	6,814.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,000.00	0.00	0.00	6,914.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,100.00	0.00	0.00	7,014.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,124.74	0.00	0.00	7,039.00	-675.04	-83.30	680.16	0.00	0.00	0.00
MESAVERDE									
7,200.00	0.00	0.00	7,114.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,300.00	0.00	0.00	7,214.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,400.00	0.00	0.00	7,314.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,500.00	0.00	0.00	7,414.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,600.00	0.00	0.00	7,514.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,700.00	0.00	0.00	7,614.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,800.00	0.00	0.00	7,714.26	-675.04	-83.30	680.16	0.00	0.00	0.00
7,900.00	0.00	0.00	7,814.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,000.00	0.00	0.00	7,914.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,100.00	0.00	0.00	8,014.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,200.00	0.00	0.00	8,114.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,300.00	0.00	0.00	8,214.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,400.00	0.00	0.00	8,314.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,500.00	0.00	0.00	8,414.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,600.00	0.00	0.00	8,514.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,700.00	0.00	0.00	8,614.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,800.00	0.00	0.00	8,714.26	-675.04	-83.30	680.16	0.00	0.00	0.00
8,900.00	0.00	0.00	8,814.26	-675.04	-83.30	680.16	0.00	0.00	0.00
9,000.00	0.00	0.00	8,914.26	-675.04	-83.30	680.16	0.00	0.00	0.00
9,100.00	0.00	0.00	9,014.26	-675.04	-83.30	680.16	0.00	0.00	0.00

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well P_NBU 1022-7F1CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Site:	UINTAH_NBU 1022-7C PAD	**North Reference:**	True
Well:	P_NBU 1022-7F1CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 1022-7F1CS		
Design:	PLAN #1 12-9-10 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,200.00	0.00	0.00	9,114.26	-675.04	-83.30	680.16	0.00	0.00	0.00
9,256.74	0.00	0.00	9,171.00	-675.04	-83.30	680.16	0.00	0.00	0.00
TD at 9256.74 - PBHL_NBU 1022-7F1CS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1022-7F1CS - plan hits target center - Circle (radius 25.00)	0.00	0.00	9,171.00	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,436.41	2,372.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,216.04	1,201.00	GREEN RIVER			
4,521.74	4,436.00	WASATCH			
7,124.74	7,039.00	MESAVERDE			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,117.68	1,106.62	-115.03	-14.19	Start 1533.57 hold at 1117.68 MD
2,651.25	2,578.15	-543.58	-67.08	Start Drop -1.75
3,585.74	3,500.00	-675.04	-83.30	Start 5671.00 hold at 3585.74 MD
9,256.74	9,171.00	-675.04	-83.30	TD at 9256.74

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Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
UINTAH_NBU 1022-7C PAD
P_NBU 1022-7F1CS

P_NBU 1022-7F1CS

Plan: PLAN #1 12-9-10 RHS

Standard Planning Report - Geographic

16 December, 2010

Anadarko E&P Company LP

RECEIVED: Dec. 28, 2010

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report - Geographic

Anadarko
E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well P_NBU 1022-7F1CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Site:	UINTAH_NBU 1022-7C PAD	**North Reference:**	True
Well:	P_NBU 1022-7F1CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 1022-7F1CS		
Design:	PLAN #1 12-9-10 RHS		

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site UINTAH_NBU 1022-7C PAD, SECTION 7 T10S R22E

Site Position:		**Northing:**	14,517,947.68 usft	**Latitude:**	39° 58' 4.186 N
From:	Lat/Long	**Easting:**	2,065,627.94 usft	**Longitude:**	109° 28' 56.812 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.98 °

Well P_NBU 1022-7F1CS

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,517,947.68 usft	**Latitude:**	39° 58' 4.186 N
	+E/-W	0.00 ft	**Easting:**	2,065,627.94 usft	**Longitude:**	109° 28' 56.812 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,161.00 ft

Wellbore P_NBU 1022-7F1CS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/10/2010	11.13	65.86	52,363

Design PLAN #1 12-9-10 RHS

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	187.03

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,117.68	16.35	187.03	1,106.62	-115.03	-14.19	2.00	2.00	0.00	187.03	
2,651.25	16.35	187.03	2,578.15	-543.58	-67.08	0.00	0.00	0.00	0.00	
3,585.74	0.00	0.00	3,500.00	-675.04	-83.30	1.75	-1.75	0.00	180.00	
9,256.74	0.00	0.00	9,171.00	-675.04	-83.30	0.00	0.00	0.00	0.00	PBHL_NBU 1022-7F1

Scientific Drilling
Rocky Mountain Operations

SDI

Planning Report - Geographic

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well P_NBU 1022-7F1CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Site:	UINTAH_NBU 1022-7C PAD	**North Reference:**	True
Well:	P_NBU 1022-7F1CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 1022-7F1CS		
Design:	PLAN #1 12-9-10 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,517,947.68	2,065,627.94	39° 58' 4.186 N	109° 28' 56.812 W
100.00	0.00	0.00	100.00	0.00	0.00	14,517,947.68	2,065,627.94	39° 58' 4.186 N	109° 28' 56.812 W
200.00	0.00	0.00	200.00	0.00	0.00	14,517,947.68	2,065,627.94	39° 58' 4.186 N	109° 28' 56.812 W
300.00	0.00	0.00	300.00	0.00	0.00	14,517,947.68	2,065,627.94	39° 58' 4.186 N	109° 28' 56.812 W
Start Build 2.00									
400.00	2.00	187.03	399.98	-1.73	-0.21	14,517,945.95	2,065,627.75	39° 58' 4.169 N	109° 28' 56.815 W
500.00	4.00	187.03	499.84	-6.93	-0.85	14,517,940.74	2,065,627.20	39° 58' 4.118 N	109° 28' 56.823 W
600.00	6.00	187.03	599.45	-15.58	-1.92	14,517,932.08	2,065,626.28	39° 58' 4.032 N	109° 28' 56.837 W
700.00	8.00	187.03	698.70	-27.67	-3.41	14,517,919.96	2,065,624.99	39° 58' 3.912 N	109° 28' 56.856 W
800.00	10.00	187.03	797.47	-43.19	-5.33	14,517,904.40	2,065,623.34	39° 58' 3.759 N	109° 28' 56.880 W
900.00	12.00	187.03	895.62	-62.13	-7.67	14,517,885.43	2,065,621.33	39° 58' 3.572 N	109° 28' 56.910 W
1,000.00	14.00	187.03	993.06	-84.46	-10.42	14,517,863.06	2,065,618.95	39° 58' 3.351 N	109° 28' 56.946 W
1,100.00	16.00	187.03	1,089.64	-110.14	-13.59	14,517,837.33	2,065,616.22	39° 58' 3.097 N	109° 28' 56.987 W
1,117.68	16.35	187.03	1,106.62	-115.03	-14.19	14,517,832.43	2,065,615.70	39° 58' 3.049 N	109° 28' 56.994 W
Start 1533.57 hold at 1117.68 MD									
1,200.00	16.35	187.03	1,185.61	-138.03	-17.03	14,517,809.38	2,065,613.25	39° 58' 2.822 N	109° 28' 57.031 W
1,216.04	16.35	187.03	1,201.00	-142.52	-17.59	14,517,804.89	2,065,612.78	39° 58' 2.777 N	109° 28' 57.038 W
GREEN RIVER									
1,300.00	16.35	187.03	1,281.57	-165.98	-20.48	14,517,781.38	2,065,610.28	39° 58' 2.545 N	109° 28' 57.075 W
1,400.00	16.35	187.03	1,377.52	-193.92	-23.93	14,517,753.38	2,065,607.31	39° 58' 2.269 N	109° 28' 57.119 W
1,500.00	16.35	187.03	1,473.48	-221.87	-27.38	14,517,725.38	2,065,604.34	39° 58' 1.993 N	109° 28' 57.164 W
1,600.00	16.35	187.03	1,569.43	-249.81	-30.83	14,517,697.38	2,065,601.36	39° 58' 1.717 N	109° 28' 57.208 W
1,700.00	16.35	187.03	1,665.38	-277.76	-34.27	14,517,669.39	2,065,598.39	39° 58' 1.441 N	109° 28' 57.252 W
1,800.00	16.35	187.03	1,761.34	-305.70	-37.72	14,517,641.39	2,065,595.42	39° 58' 1.164 N	109° 28' 57.297 W
1,900.00	16.35	187.03	1,857.29	-333.64	-41.17	14,517,613.39	2,065,592.45	39° 58' 0.888 N	109° 28' 57.341 W
2,000.00	16.35	187.03	1,953.25	-361.59	-44.62	14,517,585.39	2,065,589.47	39° 58' 0.612 N	109° 28' 57.385 W
2,100.00	16.35	187.03	2,049.20	-389.53	-48.07	14,517,557.39	2,065,586.50	39° 58' 0.336 N	109° 28' 57.429 W
2,200.00	16.35	187.03	2,145.16	-417.48	-51.52	14,517,529.39	2,065,583.53	39° 58' 0.059 N	109° 28' 57.474 W
2,300.00	16.35	187.03	2,241.11	-445.42	-54.96	14,517,501.39	2,065,580.56	39° 57' 59.783 N	109° 28' 57.518 W
2,400.00	16.35	187.03	2,337.06	-473.37	-58.41	14,517,473.39	2,065,577.59	39° 57' 59.507 N	109° 28' 57.562 W
2,436.41	16.35	187.03	2,372.00	-483.54	-59.67	14,517,463.20	2,065,576.50	39° 57' 59.406 N	109° 28' 57.578 W
8 5/8"									
2,500.00	16.35	187.03	2,433.02	-501.31	-61.86	14,517,445.39	2,065,574.61	39° 57' 59.231 N	109° 28' 57.607 W
2,600.00	16.35	187.03	2,528.97	-529.26	-65.31	14,517,417.39	2,065,571.64	39° 57' 58.955 N	109° 28' 57.651 W
2,651.25	16.35	187.03	2,578.15	-543.58	-67.08	14,517,403.05	2,065,570.12	39° 57' 58.813 N	109° 28' 57.674 W
Start Drop -1.75									
2,700.00	15.50	187.03	2,625.03	-556.85	-68.72	14,517,389.74	2,065,568.71	39° 57' 58.682 N	109° 28' 57.695 W
2,800.00	13.75	187.03	2,721.78	-581.91	-71.81	14,517,364.63	2,065,566.04	39° 57' 58.434 N	109° 28' 57.734 W
2,900.00	12.00	187.03	2,819.26	-604.03	-74.54	14,517,342.48	2,065,563.69	39° 57' 58.216 N	109° 28' 57.769 W
3,000.00	10.25	187.03	2,917.38	-623.18	-76.90	14,517,323.29	2,065,561.65	39° 57' 58.026 N	109° 28' 57.800 W
3,100.00	8.50	187.03	3,016.04	-639.34	-78.89	14,517,307.09	2,065,559.93	39° 57' 57.866 N	109° 28' 57.825 W
3,200.00	6.75	187.03	3,115.15	-652.51	-80.52	14,517,293.90	2,065,558.53	39° 57' 57.736 N	109° 28' 57.846 W
3,300.00	5.00	187.03	3,214.62	-662.67	-81.77	14,517,283.72	2,065,557.45	39° 57' 57.636 N	109° 28' 57.862 W
3,400.00	3.25	187.03	3,314.36	-669.81	-82.65	14,517,276.56	2,065,556.69	39° 57' 57.565 N	109° 28' 57.874 W
3,500.00	1.50	187.03	3,414.27	-673.92	-83.16	14,517,272.44	2,065,556.25	39° 57' 57.525 N	109° 28' 57.880 W
3,585.74	0.00	0.00	3,500.00	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
Start 5671.00 hold at 3585.74 MD									
3,600.00	0.00	0.00	3,514.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
3,700.00	0.00	0.00	3,614.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
3,800.00	0.00	0.00	3,714.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
3,900.00	0.00	0.00	3,814.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,000.00	0.00	0.00	3,914.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,100.00	0.00	0.00	4,014.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,200.00	0.00	0.00	4,114.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W

Scientific Drilling
Rocky Mountain Operations

SDI

Planning Report - Geographic

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well P_NBU 1022-7F1CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Site:	UINTAH_NBU 1022-7C PAD	**North Reference:**	True
Well:	P_NBU 1022-7F1CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 1022-7F1CS		
Design:	PLAN #1 12-9-10 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,300.00	0.00	0.00	4,214.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,400.00	0.00	0.00	4,314.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,500.00	0.00	0.00	4,414.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,521.74	0.00	0.00	4,436.00	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
WASATCH									
4,600.00	0.00	0.00	4,514.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,700.00	0.00	0.00	4,614.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,800.00	0.00	0.00	4,714.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
4,900.00	0.00	0.00	4,814.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,000.00	0.00	0.00	4,914.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,100.00	0.00	0.00	5,014.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,200.00	0.00	0.00	5,114.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,300.00	0.00	0.00	5,214.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,400.00	0.00	0.00	5,314.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,500.00	0.00	0.00	5,414.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,600.00	0.00	0.00	5,514.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,700.00	0.00	0.00	5,614.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,800.00	0.00	0.00	5,714.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
5,900.00	0.00	0.00	5,814.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,000.00	0.00	0.00	5,914.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,100.00	0.00	0.00	6,014.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,200.00	0.00	0.00	6,114.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,300.00	0.00	0.00	6,214.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,400.00	0.00	0.00	6,314.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,500.00	0.00	0.00	6,414.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,600.00	0.00	0.00	6,514.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,700.00	0.00	0.00	6,614.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,800.00	0.00	0.00	6,714.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
6,900.00	0.00	0.00	6,814.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,000.00	0.00	0.00	6,914.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,100.00	0.00	0.00	7,014.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,124.74	0.00	0.00	7,039.00	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
MESAVERDE									
7,200.00	0.00	0.00	7,114.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,300.00	0.00	0.00	7,214.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,400.00	0.00	0.00	7,314.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,500.00	0.00	0.00	7,414.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,600.00	0.00	0.00	7,514.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,700.00	0.00	0.00	7,614.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,800.00	0.00	0.00	7,714.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
7,900.00	0.00	0.00	7,814.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,000.00	0.00	0.00	7,914.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,100.00	0.00	0.00	8,014.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,200.00	0.00	0.00	8,114.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,300.00	0.00	0.00	8,214.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,400.00	0.00	0.00	8,314.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,500.00	0.00	0.00	8,414.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,600.00	0.00	0.00	8,514.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,700.00	0.00	0.00	8,614.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,800.00	0.00	0.00	8,714.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
8,900.00	0.00	0.00	8,814.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
9,000.00	0.00	0.00	8,914.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
9,100.00	0.00	0.00	9,014.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
9,200.00	0.00	0.00	9,114.26	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W

Scientific Drilling
Rocky Mountain Operations

SDI

Planning Report - Geographic

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well P_NBU 1022-7F1CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
Site:	UINTAH_NBU 1022-7C PAD	**North Reference:**	True
Well:	P_NBU 1022-7F1CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 1022-7F1CS		
Design:	PLAN #1 12-9-10 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,256.74	0.00	0.00	9,171.00	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W
TD at 9256.74 - PBHL_NBU 1022-7F1CS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1022-7F1CS - plan hits target center - Circle (radius 25.00)	0.00	0.00	9,171.00	-675.04	-83.30	14,517,271.33	2,065,556.13	39° 57' 57.514 N	109° 28' 57.882 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,436.41	2,372.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,216.04	1,201.00	GREEN RIVER			
4,521.74	4,436.00	WASATCH			
7,124.74	7,039.00	MESAVERDE			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,117.68	1,106.62	-115.03	-14.19	Start 1533.57 hold at 1117.68 MD
2,651.25	2,578.15	-543.58	-67.08	Start Drop -1.75
3,585.74	3,500.00	-675.04	-83.30	Start 5671.00 hold at 3585.74 MD
9,256.74	9,171.00	-675.04	-83.30	TD at 9256.74

RECEIVED: Dec. 28, 2010

NBU 1022-7B4BS
Surface: 1051’ FNL 2093’ FWL (NE/4NW/4)
BHL: 908’ FNL 1672’ FEL (NW/4NE/4)

NBU 1022-7C1BS
Surface: 1053’ FNL 2083’ FWL (NE/4NW/4)
BHL: 312’ FNL 1981’ FWL (NE/4NW/4)

NBU 1022-7C4BS
Surface: 1055’ FNL 2073’ FWL (NE/4NW/4)
BHL: 743’ FNL 1976’ FWL (NE/4NW/4)

NBU 1022-7D1CS
Surface: 1061’ FNL 2044’ FWL (NE/4NW/4)
BHL: 402’ FNL 763’ FWL (NW/4NW/4)

NBU 1022-7F1BS
Surface: 1059’ FNL 2054’ FWL (NE/4NW/4)
BHL: 1403’ FNL 1976’ FWL (SE/4NW/4)

NBU 1022-7F1CS
Surface: 1057’ FNL 2063’ FWL (NE/4NW/4)
BHL: 1733’ FNL 1976’ FWL (SE/4NW/4)

Pad: NBU 1022-7C Pad
Section 7 T10S R22E
Mineral Lease: ML 23609

Uintah County, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including, but not limited to, APDs/SULAs/ROEs/ROWs and/or easements).

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

RECEIVED: **Dec. 28, 2010**

A. Existing Roads:

Existing roads consist of county roads and improved/unimproved lease roads. APC/KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

B. Planned Access Roads:

No new access road is proposed. (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

Where roads are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

Turnouts; major cut and fills; culverts; bridges; gates; cattle guards; low water crossings; or modifications needed to existing infrastructure/facilities were determined at the on-site and, as applicable, are typically shown on attached Exhibits and Topo maps.

C. Location of Existing and Proposed Facilities:

This pad will expand the existing pad for the NBU 1022-7C. The NBU 1022-7C well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of December 27, 2010.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of each well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) aboveground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.
Gathering facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is ±1,435' and the individual segments are broken up as follows:

±755' (0. 1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.
±680' (0.1 miles) –New 6" buried gas pipeline from the edge of pad to the existing 12" pipeline.

The total liquid gathering pipeline distance from the separator to the tie in point is ±2,825'and the individual segments are broken up as follows:

±755' (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad.
±2,070' (0.4 miles) –New 6" buried liquid pipeline from the edge of pad to the NBU 1022-7G intersection.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. Kerr-McGee requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, Kerr-McGee requests a temporary 45' construction right-of-way and 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.
No water well is to be drilled on this lease.

E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

F. Methods of Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E
Ouray #1 SWD in Sec. 1 T9S R21E
NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 33 T9S R21E
NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

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Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker, The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary to subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, accidental release, or in excess of reportable quantities will be managed according to the notification requirements of UDOGMs “Reporting Oil and Gas Undesirable Events” rule, and, where State wells are participatory to a Federal agreement, according to NTL-3A.

Materials Management

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term “hazardous materials” as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

G. Ancillary Facilities:

None are anticipated.

H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1983 (NAD83) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but are not limited to: re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

Interim Reclamation

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

Final Reclamation

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by APC/KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

J. **Surface/Mineral Ownership:**
SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

K. **Other Information:**

None

M. **Lessee's or Operators' Representative & Certification:**

Andy Lytle
Regulatory Analyst I
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6100

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Andy Lytle

December 13, 2010
Date

Kerr-McGee Oil & Gas Onshore LP
P.O. Box 173779
Denver, CO 80217-3779

November 22, 2010

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 1022-7F1CS
T10S-R22E
Section 7: SENW
Surface: 1057' FNL, 2063' FWL
Bottom Hole: 1733' FNL, 1976' FWL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 1022-7F1CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

James C. Colligan III
Landman

RECEIVED: Dec. 28, 2010

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:
3160
(UT-922)

January 3, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 1022-7C PAD

43-047-51433 NBU 1022-7B4BS Sec 07 T10S R22E 1051 FNL 2093 FWL
BHL Sec 07 T10S R22E 0908 FNL 1672 FEL

43-047-51434 NBU 1022-7C1BS Sec 07 T10S R22E 1053 FNL 2083 FWL
BHL Sec 07 T10S R22E 0312 FNL 1981 FWL

43-047-51435 NBU 1022-7C4BS Sec 07 T10S R22E 1055 FNL 2073 FWL
BHL Sec 07 T10S R22E 0743 FNL 1976 FWL

43-047-51436 NBU 1022-7D1CS Sec 07 T10S R22E 1061 FNL 2044 FWL
BHL Sec 07 T10S R22E 0402 FNL 0763 FWL

43-047-51437 NBU 1022-7F1BS Sec 07 T10S R22E 1059 FNL 2054 FWL
BHL Sec 07 T10S R22E 1403 FNL 1976 FWL

43-047-51438 NBU 1022-7F1CS Sec 07 T10S R22E 1057 FNL 2063 FWL
BHL Sec 07 T10S R22E 1733 FNL 1976 FWL

NBU 1022-7E PAD

43-047-51439 NBU 1022-7D4CS Sec 07 T10S R22E 1864 FNL 0877 FWL
BHL Sec 07 T10S R22E 1237 FNL 0758 FWL

43-047-51440 NBU 1022-7E1BS Sec 07 T10S R22E 1874 FNL 0878 FWL
BHL Sec 07 T10S R22E 1567 FNL 0758 FWL

RECEIVED: Jan. 04, 2011

API #	WELL NAME	LOCATION

(Proposed PZ WASATCH-MESA VERDE)

43-047-51441 NBU 1022-7E4CS Sec 07 T10S R22E 1904 FNL 0880 FWL
BHL Sec 07 T10S R22E 2475 FNL 0760 FWL

43-047-51442 NBU 1022-7F4BS Sec 07 T10S R22E 1884 FNL 0878 FWL
BHL Sec 07 T10S R22E 2064 FNL 1977 FWL

43-047-51443 NBU 1022-7F4CS Sec 07 T10S R22E 1894 FNL 0879 FWL
BHL Sec 07 T10S R22E 2394 FNL 1977 FWL

NBU 1022-7G PAD

43-047-51444 NBU 1022-7G1BS Sec 07 T10S R22E 2361 FNL 1695 FEL
BHL Sec 07 T10S R22E 1666 FNL 1702 FEL

43-047-51445 NBU 1022-7G4BS Sec 07 T10S R22E 2361 FNL 1685 FEL
BHL Sec 07 T10S R22E 2019 FNL 1680 FEL

43-047-51446 NBU 1022-7H1BS Sec 07 T10S R22E 2361 FNL 1675 FEL
BHL Sec 07 T10S R22E 1563 FNL 0495 FEL

43-047-51447 NBU 1022-7H4BS Sec 07 T10S R22E 2361 FNL 1665 FEL
BHL Sec 07 T10S R22E 2013 FNL 0490 FEL

This office has no objection to permitting the wells at this time.

Michael L. Coulthard

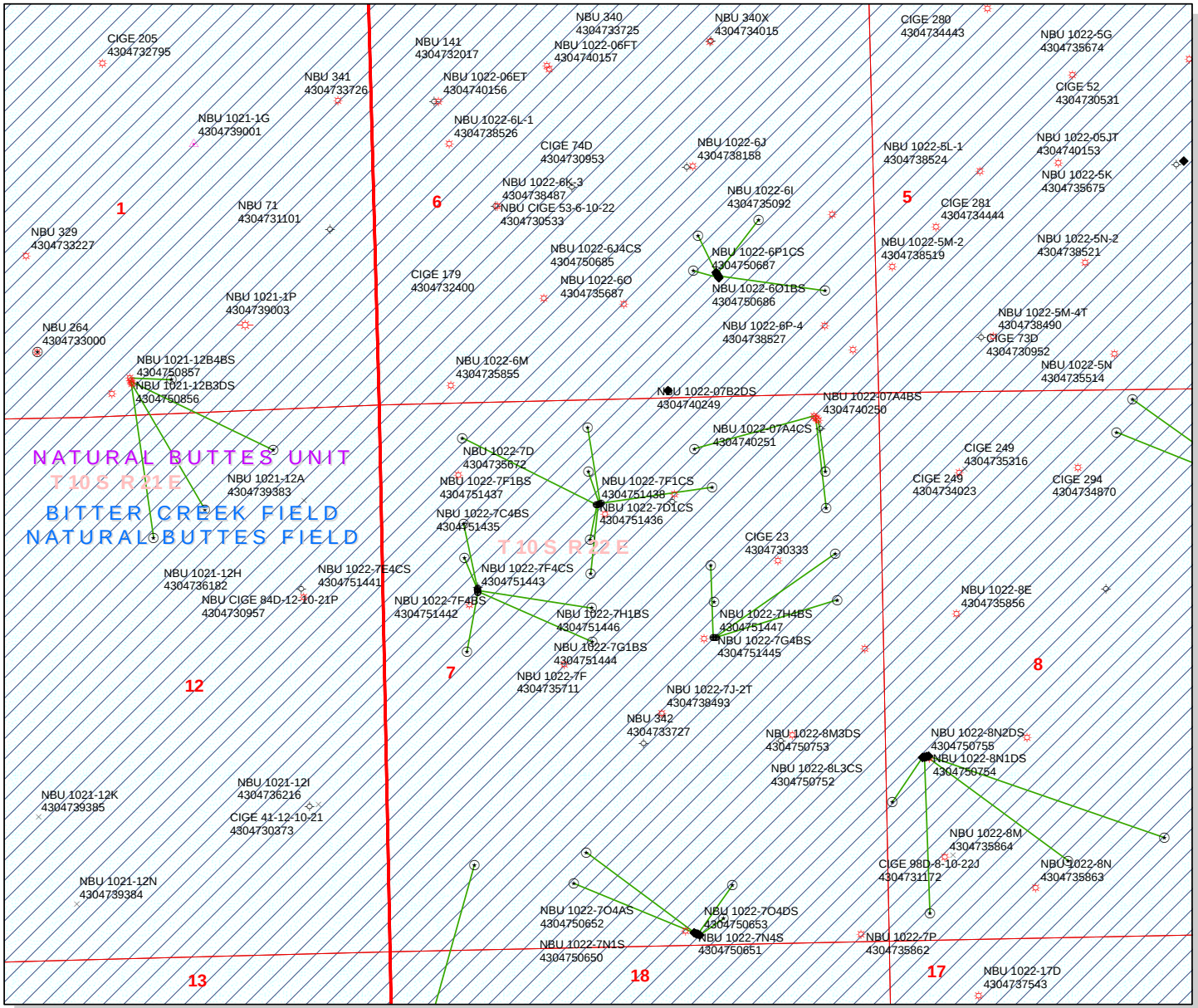
Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2011.01.03 11:20:53 -07'00'

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:1-3-11

RECEIVED: Jan. 04, 2011

API Well Number: 43047514380000



API Number: 4304751438

Well Name: NBU 1022-7F1CS

Township 10.0 S Range 22.0 E Section 07

Meridian: SLBM

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

Units
STATUS
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields
STATUS
- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED
- Sections
- Township

Wells Query
Status
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LA - Location Abandoned
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- RET - Returned APD
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

1,250 625 0 1,250 Feet

1:12,000

RECEIVED: Jan. 06, 2011

From: Jim Davis
To: Bonner, Ed; Hill, Brad; Mason, Diana
CC: Garrison, LaVonne; andrew.lytle@anadarko.com; julie.jacobson@anadarko.com
Date: 1/12/2011 12:12 PM
Subject: Kerr Mc Gee approvals in 10S 22E Sec 7 (15)

The following APDs have been approved by SITLA under the following condition. Approval is granted under the condition that spot monitoring be conducted at the beginning of construction and thereafter as deemed needful by a registered paleontologist, as recommended in the paleo reports IPC #10-71 and IPC# 10-72. Arch clearance is granted without conditions.

4304751433	NBU 1022-7B4BS
4304751434	NBU 1022-7C1BS
4304751435	NBU 1022-7C4BS
4304751436	NBU 1022-7D1CS
4304751437	NBU 1022-7F1BS
4304751438	NBU 1022-7F1CS
4304751439	NBU 1022-7D4CS
4304751440	NBU 1022-7E1BS
4304751441	NBU 1022-7E4CS
4304751442	NBU 1022-7F4BS
4304751443	NBU 1022-7F4CS
4304751444	NBU 1022-7G1BS
4304751445	NBU 1022-7G4BS
4304751446	NBU 1022-7H1BS
4304751447	NBU 1022-7H4BS

Thanks.
-Jim Davis

Jim Davis
Utah Trust Lands Administration
jimdavis1@utah.gov
Phone: (801) 538-5156

RECEIVED: **Jan. 12, 2011**

API Well Number: 43047514380000

BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-7F1CS 43047514380000

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-7F1CS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2308	9171		
Previous Shoe Setting Depth (TVD)	40	2308		
Max Mud Weight (ppg)	8.3	12.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5594	11.7		

Calculations	Surf String	8.625	"	
Max BHP (psi)	.052*Setting Depth*MW=	1000		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	723	NO	air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	492	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	501	NO	Reasonable depth in area
Required Casing/BOPE Test Pressure=		2308	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient	

Calculations	Prod String	4.500	"	
Max BHP (psi)	.052*Setting Depth*MW=	5723		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4622	YES	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3705	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4213	NO	Reasonable
Required Casing/BOPE Test Pressure=		5000	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		2308	psi *Assumes 1psi/ft frac gradient	

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient	

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	

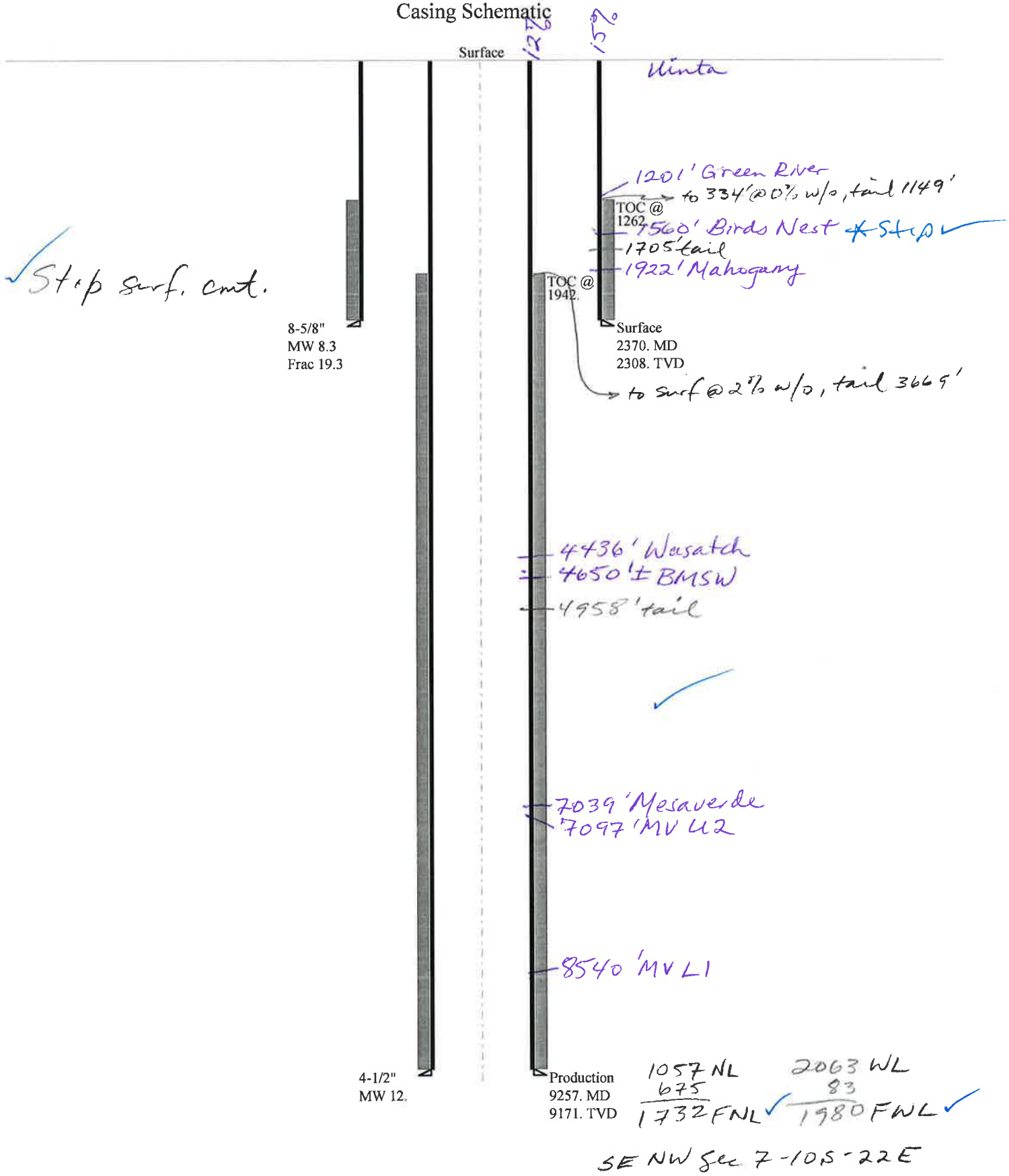
RECEIVED: Mar. 24, 2011

***Max Pressure Allowed @ Previous Casing Shoe=**		psi *Assumes 1psi/ft frac gradient

RECEIVED: **Mar. 24, 2011**

43047514380000 NBU 1022-7F1CS

Casing Schematic



Well name:	43047514380000 NBU 1022-7F1CS
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.
String type:	Surface
Project ID:	43-047-51438
Location:	UINTAH COUNTY

Design parameters:

Collapse
Mud weight: 8.330 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 2,086 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,363 psi

No backup mud specified.

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.00

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 2,075 ft

Environment:
H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 106 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,262 ft

Directional Info - Build & Drop
Kick-off point 300 ft
Departure at shoe: 469 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 16.35 °

Re subsequent strings:
Next setting depth: 9,171 ft
Next mud weight: 12.000 ppg
Next setting BHP: 5,717 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,370 ft
Injection pressure: 2,370 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	2370	8.625	28.00	I-55	LT&C	2308	2370	7.892	93852

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	999	1880	1.882	2363	3390	1.43	64.6	348	5.38 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: January 31,2011
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 2308 ft, a mud weight of 8.33 ppg The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

RECEIVED: Mar. 24, 2011

Well name:	**43047514380000 NBU 1022-7F1CS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Production
Project ID:	43-047-51438
Location:	UINTAH COUNTY

Design parameters:

Collapse

Mud weight:	12.000 ppg
Internal fluid density:	1.000 ppg

Burst

Max anticipated surface pressure:	3,699 psi
Internal gradient:	0.220 psi/ft
Calculated BHP	5,717 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor	1.125

Burst:

Design factor	1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.60 (B)

Tension is based on air weight.
Neutral point: 7,612 ft

Environment:

H2S considered?	No
Surface temperature:	74 °F
Bottom hole temperature:	202 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	100 ft
Cement top:	1,942 ft

Directional Info - Build & Drop

Kick-off point	300 ft
Departure at shoe:	680 ft
Maximum dogleg:	2 °/100ft
Inclination at shoe:	0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	9257	4.5	11.60	I-80	LT&C	9171	9257	3.875	122192

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5241	6360	1.214	5717	7780	1.36	106.4	212	1.99 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: January 31,2011
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 9171 ft, a mud weight of 12 ppg An internal gradient of .052 psi/ft was used for collapse from TD to
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

RECEIVED: Mar. 24, 2011

ON-SITE PREDRILL EVALUATION
Utah Division of Oil, Gas and Mining

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.								
Well Name	NBU 1022-7F1CS								
API Number	43047514380000			**APD No**	3347	**Field/Unit**	NATURAL BUTTES		
Location: 1/4,1/4	NENW	**Sec** 7	**Tw** 10.0S	**Rng** 22.0E	1057	FNL	2063	FWL	
GPS Coord (UTM)	629609 4425080			**Surface Owner**					

Participants

See Other Comments:

Regional/Local Setting & Topography

This location is in the Natural Buttes Unit of Uintah County approximately 36 air miles and 46.2 road miles south of Vernal, Utah. It is accessed by existing State of Utah, Uintah County and oilfield development roads. No new road construction will be required.

The general area contains sub-drainages of lower Sand Wash. Sand Wash drainage enters the White River approximately 4 miles to the north of the site. The area is characterized by rolling benches to steep sided hills, which have exposed sand stone bedrock cliffs along the rims. All drainages are ephemeral. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle, sheep and antelope exists.

Six gas wells are proposed to be directionally drilled from this pad which extends the existing pad of the NBU 1022-7C producing gas well. The new wells are the NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS and NBU 1022-7DICS. The pad is laid out in an east to west direction and the existing pad will be extended to the west and north. To obtain fill for the new pad extension, the existing pad will be lowered up to 2.7 feet. It is on the north and east side of a steep side-hill. It would not be reasonable to further excavate this hill to obtain fill. The reserve pit will be located on the moderate slope of this side-hill which has been re-contoured as part of the previous pad. The side-hill behind the new reserve pit will be left nearly vertical. Some seasonal runoff may come from this steep side slope. This probably can be contained within the 15 foot bench on the outside of the pit. A diversion in this area would be difficult to construct and maintain. A deep drainage to the north of the proposed pad is avoided. This draw, which comes from the east, parallels the pad, and then continues in a northerly direction. The selected site is the only location in the immediate area and should be suitable for drilling and operating the proposed wells.

Both the surface and minerals are owned by SITLA.

Surface Use Plan

Current Surface Use
Grazing
Wildlfe Habitat
Existing Well Pad

New Road Miles	**Well Pad**	**Src Const Material**	**Surface Formation**
0	**Width** 332 **Length** 475	Onsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate?

Environmental Parameters

RECEIVED: Mar. 28, 2011

Affected Floodplains and/or Wetlands N

Flora / Fauna

Vegetation is a sparse salt desert shrub type. About 8 inches of snow covered the area. Principal species expected species include Indian rice grass, greasewood, cheatgrass, halogeton, pepper grass, annuals weeds and curly mesquite grass.

Antelope and small mammals and birds.

Soil Type and Characteristics

Soils are a shallow and rocky.

Erosion Issues N

Sedimentation Issues Y

The side-hill behind the new reserve pit will be left nearly vertical. Some seasonal runoff may come from this steep side slope.

Site Stability Issues N

Drainage Diverson Required? N

Berm Required? N

Erosion Sedimentation Control Required? N

Some seasonal runoff may come from this steep side slope. This probably can be contained within the 15 foot bench on the outside of the pit. A diversion in this area would be difficult to construct and maintain.

Paleo Survey Run? Y **Paleo Potental Observed?** N **Cultural Survey Run?** Y **Cultural Resources?** N

Reserve Pit

Site-Specific Factors		Site Ranking	
Distance to Groundwater (feet)	100 to 200	5	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	Mod permeability	10	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
Annual Precipitation (inches)		0	
Affected Populations			
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	40	1 Sensitivity Level

Characteristics / Requirements

The reserve pit is planned in an area of cut in the southeast corner of the location. Dimensions are 100’ x 260’ x 12’ deep with 2’ of freeboard and a 15’ outer bench. Kerr McGee proposed to line the pit with a 30-mil liner and 2 layers of felt.

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Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y

Other Observations / Comments

Floyd Bartlett (DOGM), Sheila Wopsock, Clay Einerson, Charles Chase, Grizz Oleen, Andy Lytle, Matt Palmer, Roger Perry, Julie Jacobson and Duane Holmes (Kerr McGee), Mitch.Batty, John Slaugh, (Timberline Engineering and Land Surveying) and Jim Davis (SITLA).

Floyd Bartlett	1/11/2011
Evaluator	**Date / Time**

RECEIVED: Mar. 28, 2011

Application for Permit to Drill
Statement of Basis

Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
3347	43047514380000	LOCKED	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		**Surface Owner-APD**		
Well Name	NBU 1022-7F1CS		**Unit**	NATURAL BUTTES	
Field	NATURAL BUTTES		**Type of Work**	DRILL	
Location	NENW 7 10S 22E S 1057 FNL 2063 FWL		GPS Coord (UTM)	629618E	4425083N

Geologic Statement of Basis

Kerr McGee proposes to set 2,370’ of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,650'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 7. The well is owned by the BLM, has a depth of 1,850 feet, and its listed use is for stock watering. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill	1/24/2011
APD Evaluator	**Date / Time**

Surface Statement of Basis

This location is in the Natural Buttes Unit of Uintah County approximately 36 air miles and 46.2 road miles south of Vernal, Utah. It is accessed by existing State of Utah, Uintah County and oilfield development roads. No new road construction will be required.

The general area contains sub-drainages of lower Sand Wash. Sand Wash drainage enters the White River approximately 4 miles to the north of the site. The area is characterized by rolling benches to steep sided hills, which have exposed sand stone bedrock cliffs along the rims.
All drainages are ephemeral. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle, sheep and antelope exists.

Six gas wells are proposed to be directionally drilled from this pad which extends the existing pad of the NBU 1022-7C producing gas well. The new wells are the NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS and NBU 1022-7DICS. The pad is laid out in an east to west direction and the existing pad will be extended to the west and north. To obtain fill for the new pad extension, the existing pad will be lowered up to 2.7 feet. It is on the north and east side of a steep side-hill. It would not be reasonable to further excavate this hill to obtain fill. The reserve pit will be located on the moderate slope of this side-hill which has been re-contoured as part of the previous pad. The side-hill behind the new reserve pit will be left nearly vertical. Some seasonal runoff may come from this steep side slope. This probably can be contained within the 15 foot bench on the outside of the pit. A diversion in this area would be difficult to construct and maintain. A deep drainage to the north of the proposed pad is avoided. This draw, which comes from the east, parallels the pad, and then continues in a northerly direction. The selected site is the only location in the immediate area and should be suitable for drilling and operating the proposed wells.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the site evaluation and had no concerns with the proposal. Kerr McGee was told to consult with SITLA for reclamation standards including seeding mixes to be used.

RECEIVED: Mar. 28, 2011

Application for Permit to Drill
Statement of Basis

Alex Hansen and Ben Williams of the Utah Division of Wildlife Resources were invited to attend. They stated they had a previously scheduled meeting for this date and neither attended.

Floyd Bartlett	1/11/2011
Onsite Evaluator	**Date / Time**

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.
Surface	The well site shall be bermed to prevent fluids from leaving the pad.

RECEIVED: Mar. 28, 2011

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 12/28/2010 **API NO. ASSIGNED:** 43047514380000
WELL NAME: NBU 1022-7F1CS
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6100
CONTACT: Andy Lytle

PROPOSED LOCATION: NENW 07 100S 220E **Permit Tech Review:** ✔

SURFACE: 1057 FNL 2063 FWL **Engineering Review:** ✔

BOTTOM: 1733 FNL 1976 FWL **Geology Review:** ✔

COUNTY: UINTAH
LATITUDE: 39.96787 **LONGITUDE:** -109.48230
UTM SURF EASTINGS: 629618.00 **NORTHINGS:** 4425083.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 3 - State
LEASE NUMBER: ML 23609 **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE
SURFACE OWNER: 3 - State **COALBED METHANE:** NO

RECEIVED AND/OR REVIEWED:

- ✔ **PLAT**
- ✔ **Bond:** STATE/FEE - 22013542
- ☐ **Potash**
- ✔ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ✔ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ✔ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ✔ **Drilling Unit**

Board Cause No: Cause 173-14
Effective Date: 12/2/1999
Siting: Suspends General Siting

- ✔ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
3 - Commingling - ddoucet
5 - Statement of Basis - bhill
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - hmacdonald

RECEIVED: Mar. 28, 2011

GARY R. HERBERT
Governor
GREGORY S. BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: NBU 1022-7F1CS
API Well Number: 43047514380000
Lease Number: ML 23609
Surface Owner: STATE
Approval Date: 3/28/2011

Issued to:
KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:
Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingle:
In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

Additional Approvals:
The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at http://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

Contact Information:
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
  801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
  801-231-8956 - after office hours

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23609

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-7F1CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047514380000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1057 FNL 2063 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
✓ SPUD REPORT Date of Spud: 5/6/2011	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 05/06/2011 AT 1130 HRS.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Sheila Wopsock	435 781-7024	Regulatory Analyst
SIGNATURE N/A		**DATE** 5/9/2011

RECEIVED May. 09, 2011

SUBMIT AS EMAIL | Print Form

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
Submitted By ANDY LYTLE Phone Number 720.929.6100
Well Name/Number NBU 1022-7F1CS
Qtr/Qtr NENW Section 7 Township 10S Range 22E
Lease Serial Number ML-23609
API Number 4304751438

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 05/06/2011 15:30 HRS AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☑ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

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MAY 05 2011
DIV. OF OIL, GAS & MINING

Date/Time 05/25/2011 08:00 HRS AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

Date/Time _____ _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT 435.781.7048 OR LOVEL YOUNG AT 435.828.0986

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Operator Account Number: N 2995
Address: 1368 SOUTH 1200 EAST
city VERNAL
state UT zip 84078
Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751438	NBU 1022-7F1CS		NENW	7	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	~~5/6/2011~~			5/10/11	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD BHL-SENW
SPUD WELL LOCATION ON ~~05/06/2011~~ AT 1130 HRS 5/7/11 per Sheila

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751437	NBU 1022-7F1BS		NENW	7	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	~~5/6/2011~~			5/10/11	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD - SENW
SPUD WELL LOCATION ON ~~05/06/2011~~ AT 1030 HRS. 5/7/11 per Sheila

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751436	NBU 1022-7D1CS		NENW	7	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	~~5/6/2011~~			5/10/11	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD BHL = NWNW
SPUD WELL LOCATION ON ~~05/06/2011~~ AT 0830 HRS. 5/7/11 per Sheila

ACTION CODES:
- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK
Name (Please Print)
Signature
REGULATORY ANALYST
Title
5/9/2011
Date

(5/2000)

RECEIVED
MAY 09 2011
DIV. OF OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML 23609

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:
NATURAL BUTTES

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
NBU 1022-7F1CS

2. NAME OF OPERATOR:
KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER:
43047514380000

3. ADDRESS OF OPERATOR:
P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER:
720 929-6515 Ext

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1057 FNL 2063 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S

COUNTY:
UINTAH

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 5/24/2011	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU AIR RIG ON MAY 22, 2011. DRILLED SURFACE HOLE TO 2420'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE		**DATE**
N/A		5/26/2011

RECEIVED May. 26, 2011

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23609

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-7F1CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047514380000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1057 FNL 2063 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 9/26/2011	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU ROTARY RIG. FINISHED DRILLING FROM 2420' TO 9320' ON SEPT. 24, 2011. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED ENSIGN RIG 139 ON SEPT. 26, 2011 @ 04:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 9/26/2011

RECEIVED Sep. 26, 2011

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 139
Submitted By SID ARMSTRONG Phone Number 435- 828-0984
Well Name/Number NBU-1022-7F1CS
Qtr/Qtr NE/NW Section 7 Township 10S Range 22E
Lease Serial Number ML 23609
API Number 43047514380000

Casing – Time casing run starts, not cementing times.

☐ Production Casing
☐ Other

Date/Time _ AM ☐ PM ☐

RECEIVED
SEP 16 2011
DIV. OF OIL, GAS & MINING

BOPE
☒ Initial BOPE test at surface casing point
☐ Other

Date/Time 9/19/2011 07:00 AM ☒ PM ☐

Rig Move
Location To: ___

Date/Time _____ _____ AM ☐ PM ☐

Remarks BE MOVING RIG TO NBU 1022-7F1CS & TESTING B.O.P'S

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 139
Submitted By SID ARMSTRONG Phone Number 435- 828-0984
Well Name/Number NBU-1022-7F1CS
Qtr/Qtr NE/NW Section 7 Township 10S Range 22E
Lease Serial Number ML 23609
API Number 43047514380000

Casing – Time casing run starts, not cementing times.

☒ Production Casing
☐ Other

Date/Time 9/25/2011 01:00 AM ☒ PM ☐

BOPE

☐ Initial BOPE test at surface casing point
☐ Other

RECEIVED
SEP 2 2 2011
DIV. OF OIL, GAS & MINING

Date/Time _____ _____ AM ☐ PM ☐

Rig Move
Location To: ___

Date/Time _____ _____ AM ☐ PM ☐

Remarks BE SKIDDING RIG TO NBU 1022-7F1BS & TESTING B.O.P'S

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23609

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-7F1CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047514380000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1057 FNL 2063 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 11/28/2011	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	✓ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 11/28/2011 AT 1700 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Sheila Wopsock	435 781-7024	Regulatory Analyst
SIGNATURE N/A		**DATE** 11/30/2011

RECEIVED Nov. 30, 2011

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ (highlight changes) FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: ML 23609
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT or CA AGREEMENT NAME: UTU63047A
8. WELL NAME and NUMBER: NBU 1022-7F1CS
9. API NUMBER: 4304751438
10 FIELD AND POOL, OR WILDCAT: NATURAL BUTTES

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ OTHER

b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P.

3. ADDRESS OF OPERATOR: P.O.BOX 173779 CITY DENVER STATE CO ZIP 80217
PHONE NUMBER: (720) 929-6304

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: NENW 1057 FNL 2063 FWL S7,T10S,R22E
AT TOP PRODUCING INTERVAL REPORTED BELOW: SENW 1711FNL 1972 FWL S7,T10S,R22E
AT TOTAL DEPTH: SENW 1736 FNL 2002 FWL S7,T10S,R22E BHL Rev HSM

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 7 10S 22E S
12. COUNTY: UINTAH
13. STATE: UTAH

14. DATE SPUDDED: 5/6/2011
15. DATE T.D. REACHED: 9/24/2011
16. DATE COMPLETED: 11/28/2011 ABANDONED ☐ READY TO PRODUCE ☑
17. ELEVATIONS (DF, RKB, RT, GL): 5161 GL

18. TOTAL DEPTH: MD 9,320 TVD 9,245
19. PLUG BACK T.D.: MD 9,249 TVD 9,174
20. IF MULTIPLE COMPLETIONS, HOW MANY? *
21. DEPTH BRIDGE PLUG SET: MD TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)
SYNTHETIC TRIPLE COMBO-CBL/CMI/GR/CCL-RSL/SM/GR/CCL

23.
WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)
WAS DST RUN? NO ☑ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☑ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11"	8 5/8" IJ-55	28#	0	2,402		1,130		0	
7 7/8"	4 1/2" I-80	11.6#	0	9,293		1,498		2264	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,760							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) MESAVERDE	7,237	9,100		
(B) WSMVD				
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
7,237 9,100	0.36	168	Open ☑ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7237 - 9100	PUMP 7828 BBLS SLICK H2O & 153,791 LBS 30/50 OTTAWA SAND
	7 STAGES

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☑ DIRECTIONAL SURVEY
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☐ OTHER:

30. WELL STATUS: PROD

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JAN 17 2012
DIV. OF OIL, GAS & MINING

(5/2000) **(CONTINUED ON BACK)**

31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
11/28/2011	11/28/2011	24		0	1,447	1,416	FLOWING

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:
20/64	1,777	2,759					0	1,447	1,416	PROD

INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.

34. FORMATION (Log) MARKERS:

Name	Top (Measured Depth)
GREEN RIVER	1,231
BIRD'S NEST	1,617
MAHOGANY	1,990
WASATCH	4,527
MESAVERDE	7,121

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210'of the surface hole was drilled with a 12 ¼" bit. The remainder of surface hole was drilled with an 11" bit. Attached is the chronological well history, perforation report & final survey.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) JAIME SCHARNOWSKE TITLE REGULATORY ANALYST

SIGNATURE Jaime Scharnowske DATE 1/11/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

(5/2000)

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD	Rig Name No: ENSIGN 139/139, PROPETRO 11/11
Event: DRILLING	Start Date: 4/11/2011	End Date: 9/26/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/22/2011	15:00 - 16:00	1.00	MIRU	01	C	P		MOVE RIG OFF THE NBU 1022-7C4BS
	16:00 - 18:30	2.50	MIRU	01	B	P		BUILD DITCH, SET CATWALK AND PIPE RACKS. RIG UP AND PRIME PIT PUMP AND MUD PUMP,PREPARE TO SPUD WELL
	18:30 - 19:00	0.50	DRLSUR	06	A	P		P/U 1.83 DEG BENT HOUSING HUNTING MTR SN 8059 . 7/8 LOBE .17 RPM. M/U 12.25" Q507 SN 7133232 4TH RUN, W/ 7-18'S. INSTALL RUBBER
	19:00 - 20:30	1.50	DRLSUR	02	B	P		SPUD SURFACE HOLE 05/22/2011 @ 19:00 HRS. DRILL 12.25" SURFACE HOLE F/40'-210' (170' @ 113'/HR) PSI ON/ OFF 700/450, UP/ DOWN/ ROT 28/23/26. 532 GPM, 45 RPM ON TOP DRIVE,90 RPM ON MM , 15-18K WOB
	20:30 - 21:00	0.50	DRLSUR	06	A	P		TOH L/D 12 1/4" BIT
	21:00 - 0:00	3.00	ALL	08	B	Z		REPAIR ANTIFREEZE LEAK ON MANIFOLD OF MUD PUMP MOTOR
5/23/2011	0:00 - 1:30	1.50	DRLSUR	06	A	P		M/U 11" SURF. BIT,P/U DIR. TOOLS & SCRIBE,TIH T/210'
	1:30 - 6:30	5.00	DRLSUR	02	D	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 210'-890' (680' @ 136' /HR) PSI ON/ OFF=1110/830 , UP/ DOWN/ ROT=52/47/49 . 130 SPM, 532 GPM, 18-20K WOB, 48 RPM ON TOP DRIVE,MM 90 RPM, CIRCULATING RESERVE PIT// NO LOSSES
	6:30 - 16:30	10.00	DRLSUR	02	D	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 890'-1910' (1020' @ 102' /HR) PSI ON/ OFF=1510/1250 , UP/ DOWN/ ROT=72/56/65 . 130 SPM, 532 GPM, 18-20K WOB, 48 RPM ON TOP DRIVE,MM 90 RPM,LOST RETURNS @ 1820',RUN AIR AS NEEDED TO MAINTAIN CIRC. & RESERVE PIT LEVEL
	16:30 - 0:00	7.50	DRLSUR	02	D	P		DRILL/ SLIDE 11" SURFACE HOLE F/1910'-2420' (510' @ 68' /HR) PSI ON/ OFF=1400/1100 , UP/ DOWN/ ROT=85/62/70 . 130 SPM, 532 GPM, 18-20K WOB, 48 RPM ON TOP DRIVE,MM 90 RPM,RUN AIR AS NEEDED TO MAINTAIN CIRC & RESERVE PIT LEVEL(TD 11" SURF. HOLE)
5/24/2011	0:00 - 2:00	2.00	DRLSUR	05	C	P		CIRC & COND HOLE F/L/D & 8 5/8" 28# SURF. CSG RUN
	2:00 - 6:30	4.50	DRLSUR	06	D	P		L/D D/S BHA & DIR. TOOLS
	6:30 - 7:30	1.00	CSG	12	A	P		RU/T RUN SURFACE CSG, MOVE CATWALK AND PIPE RACKS, MOVE CSG OVER TO WORK AREA.
	7:30 - 10:00	2.50	CSG	12	C	P		HOLD SAFTEY MEEETING,RUN FLOAT SHOE ,SHOE JNT,BAFFEL & 53 JNTS 8 5/8" 28# LT&C CSG W/THE SHOE SET @2392' & THE BAFFEL @2346'
	10:00 - 11:00	1.00	CSG	12	B	P		MOVE RIG OFF,INSTALL CEMENT HEAD,R/U PRO PETRO CEMENTERS

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011	
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD		Rig Name No: ENSIGN 139/139, PROPETRO 11/11
Event: DRILLING	Start Date: 4/11/2011		End Date: 9/26/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	11:00 - 12:00	1.00	CSG	12	E	P		HOLD SAFETY MEETING. TEST LINES TO 2000 PSI. PUMP 140 BBLS OF 8.3# H20 AHEAD,NO RETURNS PUMP 20 BBLS OF 8.4# GEL WATER AHEAD. PUMP 180 SX(122.4 BBLS) 11# 3.82 YIELD LEAD CEMENT, PUMP 225 SX (46 BBLS) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE).DROP PLUG ON FLY AND DISPLACE W/145 BBLS OF 8.3# H20. LIFT PRESSURE WAS 230 PSI, BUMP PLUG AND HOLD 730 PSI FOR 5 MIN. FLOAT,NO RETURNS THRU OUT JOB ,NO CEMENT TO SURF.
	12:00 - 12:30	0.50	CSG	12	F	P		TOP OUT W/100 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE,NO CEMENT TO SURF.
	12:30 - 14:00	1.50	CSG	13	A	P		WAIT ON CEMENT
	14:00 - 14:30	0.50	CSG	12	F	P		TOP OUT W/125 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE,NO CEMENT TO SURF.
	14:30 - 16:00	1.50	CSG	13	A	P		WAIT ON CEMENT
	16:00 - 16:30	0.50	CSG	12	F	P		TOP OUT W/100 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE,NO CEMENT TO SURF.
	16:30 - 18:00	1.50	CSG	13	A	P		WAIT ON CEMENT
	18:00 - 18:30	0.50	CSG	12	F	P		TOP OUT W/100 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE,NO CEMENT TO SURF.
	18:30 - 20:00	1.50	CSG	13	A	P		WAIT ON CEMENT
	20:00 - 20:30	0.50	CSG	12	F	P		TOP OUT W/150 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE,NO CEMENT TO SURF.
	20:30 - 22:00	1.50	CSG	13	A	P		WAIT ON CEMENT
	22:00 - 22:30	0.50	CSG	12	F	P		TOP OUT W/150 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE,NO CEMENT TO SURF.(RELEASE RIG @ 22:30 05/24/2011)
9/19/2011	21:00 - 22:00	1.00	DRLPRO	01	C	P		R/D RIG & SKID TO NBU-1022-7F1CS
	22:00 - 23:00	1.00	DRLPRO	14	A	P		N/U B.O.P'S
	23:00 - 0:00	1.00	DRLPRO	09	A	P		CUT DRILL LINE
9/20/2011	0:00 - 1:00	1.00	DRLPRO	09	A	P		FINISH CUTTING DRILL LINE
	1:00 - 5:30	4.50	DRLPRO	15	A	P		TEST B.O.P'S - BLINS - PIPE - 2" - 4" VALVES - HCR & CHOKE MAINFOLD - 250 LOW - 5000 HIGH - ANNULAR 250 LOW 2500 HIGH - & CSG TO 1500 PSI.
	5:30 - 6:00	0.50	DRLPRO	14	B	P		SET WEAR BUSHING
	6:00 - 8:30	2.50	DRLPRO	06	A	P		P/U MOTOR - BIT - DIR TOOLS - T.I.H
	8:30 - 9:30	1.00	DRLPRO	07	B	P		CENTER RIG OVER HOLE
	9:30 - 10:30	1.00	DRLPRO	06	A	P		CONT T.I.H & TAG CEMENT @ 2403
	10:30 - 12:30	2.00	DRLPRO	02	D	P		DRILL SHOE TRACK
	12:30 - 14:00	1.50	DRLPRO	02	D	P		DIR DRILL F/ 2430 TO 2576 = 146' @ 97.3 FPH ,WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1300/1680,TORQ 5/7K,SLIDE 20'/13% ,CIRC RES PIT
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SER

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD	Rig Name No: ENSIGN 139/139, PROPETRO 11/11
Event: DRILLING	Start Date: 4/11/2011	End Date: 9/26/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DIR DRILL F/ 2576 TO 3800 = 1224' @ 128.84 FPH ,WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1300/1680,TORQ 5/7K,SLIDE 290'/24% ,CIRC RES PIT
9/21/2011	0:00 - 12:00	12.00	DRLPRO	02	D	P		DIR DRILL F/ 3800 TO 5473 = 1673' @ 139.42 FPH ,WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1700/2000,TORQ 6/8K,SLIDE 75'/4% ,CIRC RES PIT
	12:00 - 12:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DIR DRILL F/ 5473 TO 6650 = 1177' @ 102.3 FPH ,WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1700/2000,TORQ 6/8K,SLIDE 35'/2% ,CIRC RES PIT
9/22/2011	0:00 - 14:00	14.00	DRLPRO	02	D	P		DIR DRILL F/ 6650 TO 7372 = 722' @ 51.5 FPH ,WOB 18/20,RPM 40/115,STKS 104,GPM 500,PSI 1800/2100,TORQ 6/8K,SLIDE 40'/5% ,MW 10.8 VIS 39
	14:00 - 14:30	0.50	DRLPRO	07	A	P		SER RIG
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DIR DRILL F/ 7372 TO 7805 = 433' @ 45.5 FPH ,WOB 18/20,RPM 40/115,STKS 104,GPM 500,PSI 1800/2100,TORQ 6/8K,SLIDE 0'/0% ,MW 11.0 - VIS 39
9/23/2011	0:00 - 20:00	20.00	DRLPRO	02	D	P		DIR DRILL F/ 7805 TO 8640 = 835' @ 41.75 FPH ,WOB 18/20,RPM 40/115,STKS 100,GPM 490,PSI 2000/2300,TORQ 6/8K,SLIDE 38'/4% ,MW 11.6 - VIS 43
	20:00 - 20:30	0.50	DRLPRO	07	A	P		SER RIG
	20:30 - 0:00	3.50	DRLPRO	02	D	P		DIR DRILL F/ 8640 TO 8786 = 146' @ 41.7 FPH ,WOB 18/20,RPM 40/115,STKS 100,GPM 490,PSI 2000/2300,TORQ 6/8K,SLIDE 0'/0% ,MW 11.8 - VIS 43
9/24/2011	0:00 - 10:30	10.50	DRLPRO	02	D	P		DIR DRILL F/ 8786 TO 9320 = 534' @ 50.8 FPH ,WOB 18/20,RPM 40/115,STKS 100,GPM 490,PSI 2000/2300,TORQ 6/8K,SLIDE 0'/0% ,MW 11.9 - VIS 43 - LCM 3% (WELL SEEPING @ 11.8 PPG MUD WT
	10:30 - 12:00	1.50	DRLPRO	05	A	P		CIRC BTM UP TWICE
	12:00 - 17:30	5.50	DRLPRO	06	E	P		SHORT TRIP - T.O.H TO SHOE (PULL 10 STANDS & PUMPED OUT 3 STANDS & PUMP DRY JOB - CONT T.O.H
	17:30 - 18:00	0.50	DRLPRO	07	A	P		SER RIG
	18:00 - 23:00	5.00	DRLPRO	06	E	P		T.I.H ON WIPER
	23:00 - 23:30	0.50	DRLPRO	03	E	P		WASH 230' TO BTM (NO FILL) TIGHT SPOT @ 9225
	23:30 - 0:00	0.50	DRLPRO	05	A	P		CIRC BTM UP
9/25/2011	0:00 - 1:00	1.00	DRLPRO	05	A	P		CIRC BTM UP
	1:00 - 9:00	8.00	DRLPRO	06	D	P		T.O.H TO RUN PROD CASING
	9:00 - 9:30	0.50	DRLPRO	14	B	P		PULL WEAR BUSHING
	9:30 - 19:00	9.50	DRLPRO	12	C	P		HELD S/M & R/U FRANKS CASING CREW & RUN 220 JTS PLUS TWO MARKER OF I-80 & SHOE SET @ 9293 - F/C @ 9250
	19:00 - 20:00	1.00	DRLPRO	05	D	P		CIRC BTM UP

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011	
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD		Rig Name No: ENSIGN 139/139, PROPETRO 11/11
Event: DRILLING	Start Date: 4/11/2011		End Date: 9/26/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	20:00 - 22:30	2.50	DRLPRO	12	E	P		SAFETY MEET W/ HALCO,R/U PRESSURE TEST TO 5K,PUMP 5 BBL FRESH,20 SKS SCAVENGER @ 11.1 PPG & ,418 SX LEAD @12.1 2.23 YLD,1080SX TAIL#14.3 1.31 YLD,DISPLACE 144 BBLS,FINAL LIFT PSI 2850 ,BUMP PLUG 3470,FLOATS HELD,10 BBL LEAD SCAVENGER BACK TO RES,1.5 BACK TO TRUCK
	22:30 - 0:00	1.50	DRLPRO	14	A	P		WASH OUT STACK & N/D & SET C-22 SLIPS W/ 100K - ROUGH CUT 4.5 CASING
9/26/2011	0:00 - 4:00	4.00	DRLPRO	01	C	P		WASH CLEAN OUT MUD TANKS & RELEASED RIG @ 04:00 HRS ON 9/26/2011

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-7F1CS GREEN	**Wellbore No.**	OH
Well Name	NBU 1022-7F1CS	**Wellbore Name**	NBU 1022-7F1CS
Report No.	1	**Report Date**	11/7/2011
Project	UTAH-UINTAH	**Site**	NBU 1022-7C PAD
Rig Name/No.		**Event**	COMPLETION
Start Date	11/11/2011	**End Date**	11/28/2011
Spud Date	5/22/2011	**Active Datum**	RKB @5,174.00usft (above Mean Sea Level)
UWI	NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0		

1.3 General

Contractor	CASED HOLE SOLUTIONS	**Job Method**	PERFORATE	**Supervisor**	ED GUDAC
Perforated Assembly	PRODUCTION CASING	**Conveyed Method**	WIRELINE		

1.4 Initial Conditions

Fluid Type		**Fluid Density**	
Surface Press		**Estimate Res Press**	
TVD Fluid Top		**Fluid Head**	
Hydrostatic Press		**Press Difference**	
Balance Cond	NEUTRAL		

1.5 Summary

Gross Interval	7,237.0 (usft)-9,100.0 (usft	**Start Date/Time**	11/14/2011 12:00AM
No. of Intervals	30	**End Date/Time**	11/14/2011 12:00AM
Total Shots	0	**Net Perforation Interval**	52.00 (usft)
Avg Shot Density	0.00 (shot/ft)	**Final Surface Pressure**	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/2011 12:00AM	MESAVERDE/			7,237.0	7,239.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/2011 12:00AM	MESAVERDE/			7,258.0	7,259.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			7,278.0	7,280.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			7,319.0	7,322.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			7,376.0	7,380.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			7,477.0	7,480.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			7,532.0	7,533.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			7,759.0	7,761.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			7,862.0	7,864.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			7,874.0	7,876.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,043.0	8,044.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,067.0	8,068.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,161.0	8,162.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,179.0	8,180.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,206.0	8,207.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

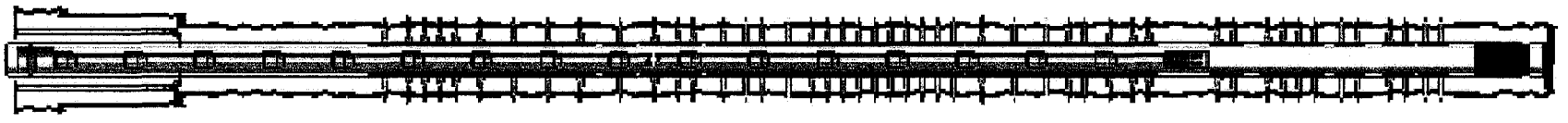
Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf.	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/2011 12:00AM	MESAVERDE/			8,230.0	8,231.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,256.0	8,257.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,272.0	8,273.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,397.0	8,398.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,445.0	8,447.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,474.0	8,475.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,488.0	8,489.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,541.0	8,542.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,568.0	8,570.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,774.0	8,777.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,890.0	8,891.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,896.0	8,898.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			8,962.0	8,964.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/14/2011 12:00AM	MESAVERDE/			9,067.0	9,070.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/2011 12:00AM	MESAVERDE/			9,097.0	9,100.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

3 Plots

3.1 Wellbore Schematic



US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 11/11/2011	End Date: 11/28/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/10/2011	10:00 - 12:00	2.00	COMP	33	C	P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 6 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 31 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 57 PSI. NO COMMUNICATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFW
11/11/2011	7:00 - 12:00	5.00	COMP	37		P		RU CASED HOLE SOLUTIONS: PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWIFW

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011	
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD		Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 11/11/2011		End Date: 11/28/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/14/2011	9:00 - 18:00	9.00	COMP	36	B	P		FRAC STG 1)WHP 1280 PSI, BRK 3119 PSI @ 4.5 BPM. ISIP 2237 PSI, FG .69. CALC HOLES OPEN @ 47.8 BPM @ 6078 PSI = 84% HOLES OPEN. ISIP 2473 PSI, FG .71, NPI 236 PSI. MP 6329 PSI, MR 50.8 BPM, AP 5312 PSI, AR 49.9 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8928' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW. FRAC STG 2)WHP 1568 PSI, BRK 4452 PSI @ 4.5 BPM. ISIP 2309 PSI, FG .70. CALC HOLES OPEN @ 49.8 BPM @ 5687 PSI = 100% HOLES OPEN. ISIP 2583 PSI, FG .73, NPI 274 PSI. MP 6219 PSI, MR 50.8 BPM, AP 5440 PSI, AR 50 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L PERF STG 3)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8600' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW. FRAC STG 3)WHP 2160 PSI, BRK 5514 PSI @ 4.7 BPM. ISIP 3265 PSI, FG .71 CALC HOLES OPEN @ 44.9 BPM @ 5765 PSI = 68% HOLES OPEN. ISIP 2420 PSI, FG .72, NPI 155 PSI. MP 6466 PSI, MR 50.7 BPM, AP 5741 PSI, AR 48.3 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L PERF STG 4)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8303' P/U PERF AS PER DESIGN. POOH. SWIFN.

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011	
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD		Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 11/11/2011		End Date: 11/28/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/15/2011	10:00 - 18:00	8.00	COMP	36	B	P		FRAC STG 4)WHP 775 PSI, BRK 4333 PSI @ 4.8 BPM. ISIP 2228 PSI, FG .71. CALC HOLES OPEN @ 50.2 BPM @ 4965 PSI = 100% HOLES OPEN. ISIP 2305 PSI, FG .72, NPI 77 PSI. MP 5543 PSI, MR 50.5 BPM, AP 4717 PSI, AR 48.6 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL PERF STG 5)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7906' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW. FRAC STG 5)WHP 1420 PSI, BRK 2662 PSI @ 4.1 BPM. ISIP 1957 PSI, FG .69. CALC HOLES OPEN @ 50.3BPM @ 5581 PSI = 90% HOLES OPEN. ISIP 2839 PSI, FG .80, NPI 882 PSI. MP 5776 PSI, MR 50.6 BPM, AP 5299 PSI, AR 49.8 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL PERF STG 6)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7563' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW. FRAC STG 6)WHP 975 PSI, BRK 2491 PSI @ 4.2 BPM. ISIP 1468 PSI, FG .64. CALC HOLES OPEN @ 46.2 BPM @ 6207 PSI = 60% HOLES OPEN. ISIP 2068 PSI, FG .72, NPI 600 PSI. MP 6470 PSI, MR 50.6 BPM, AP 5151 PSI, AR 47.6 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE. SWIFN.

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011	
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD		Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 11/11/2011		End Date: 11/28/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/16/2011	11:30 - 15:00	3.50	COMP	36	B	P		PERF STG 7)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7352' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW. FRAC STG 7)WHP 1025 PSI, BRK 2945 PSI @ 4.0 BPM. ISIP 1804 PSI, FG .69. CALC HOLES OPEN @ 50.2 BPM @ 4594 PSI = 100% HOLES OPEN. ISIP 2215 PSI, FG .74, NPI 411 PSI. MP 5655 PSI, MR 51.1 BPM, AP 4428 PSI, AR 50.5 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W'L PU 4 1/2 8K HAL CBP. RIH SET KILL PLUG @ 7187'. POOH. SWI. DONE FRACING THIS WELL. TOTAL SAND = 153,791 LBS TOTAL CLFL = 7828 BBLS
11/28/2011	6:45 - 7:00	0.25	COMP	48		P		HSM & JSA W/ROYAL WELL SERVICE

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-7F1CS GREEN	Spud Conductor: 5/6/2011	Spud Date: 5/22/2011	
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD		Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 11/11/2011		End Date: 11/28/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1057/W/0/2063/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 17:30	10.50	COMP	31	I	P		SICP 0 PSI. MIRU - SPOT EQUIP. NDWH, NU BOPs. PREP & TALLY TBG. PU 3 7/8" BIT, POBS & XN NIPPLE. RIH ON 226 JTS 2 3/8" TBG. TAG FILL @ 7169'. LD 1 JTS. R/D TBG EQUIP. R/U PWR SWVL & PMP. EST CIRC. PT CSG & BOPs TO 3000 PSI & HOLD 15 MIN. (0 PSI LOSS). RIH TAG FILL @ 7169'. C/O SND & D/O CBPs. HALCO CBP @ PSI FCP — C/O FILL — D/O CBP — DIFF CBP #1 @ 7180' — 11 FT — 08 MIN — 200 PSI — 50 PSI CBP #2 @ 7352' — 27 FT — 06 MIN — 100 PSI — 100 PSI CBP #3 @ 7560' — 21 FT — 06 MIN — 200 PSI — 100 PSI CBP #4 @ 7898' — 23 FT — 06 MIN — 500 PSI — 150 PSI CBP #5 @ 8303' — 29 FT — 04 MIN — 300 PSI — 500 PSI CBP #6 @ 8600' — 36 FT — 06 MIN — 400 PSI — 650 PSI CBP #7 @ 8928' — 28 FT — 04 MIN — 200 PSI — 650 PSI RIH & TAG FILL @ 9212'. C/O TO 9248' (36' OF FILL). (PBTD @ 9248). FCP = 675 PSI. PMP 20 BBLS TMAC & CIRC WELL CLEAN. R/D PWR SWVL, R/U TBG EQUIP. LD 16 JTS ON FLOAT, (38 TOTAL ON FLOAT). LND TBG ON HNGR W/276 JTS NEW 2 3/8" 4.7# L80 TBG @ 8759.96'. RD FLOOR & TBG EQUIP. ND BOP, DROP BALL, NUWH. PMP OFF BIT W/10 BBLS TMAC @ 1800 PSI. WAIT 30 MIN FOR BIT TO FALL TO BTM. TURN WELL TO F.B.C. KB 14' HANGER 0.83' XN NIPPLE 1.33' TBG 276 JTS = 8742.75' XN NIPPLE @ 8757.58' EOT @ 8759.96' (314 JTS DLVRD - 38 JTS RTND) TWTR = 7953 BBLS TWR = 800 BBLS TWLTR = 7153 SICP = 1150 PSI, SITP = 0 PSI.
	17:00 - 17:00	0.00	PROD	50				WELL TURNED TO SALES 2 1700 HR ON 11/28/11 - 1200 MCFD, 1920 BWPD, CP 1900, FTP 1700#, CK 20/64"

Scientific Drilling
Rocky Mountain Operations

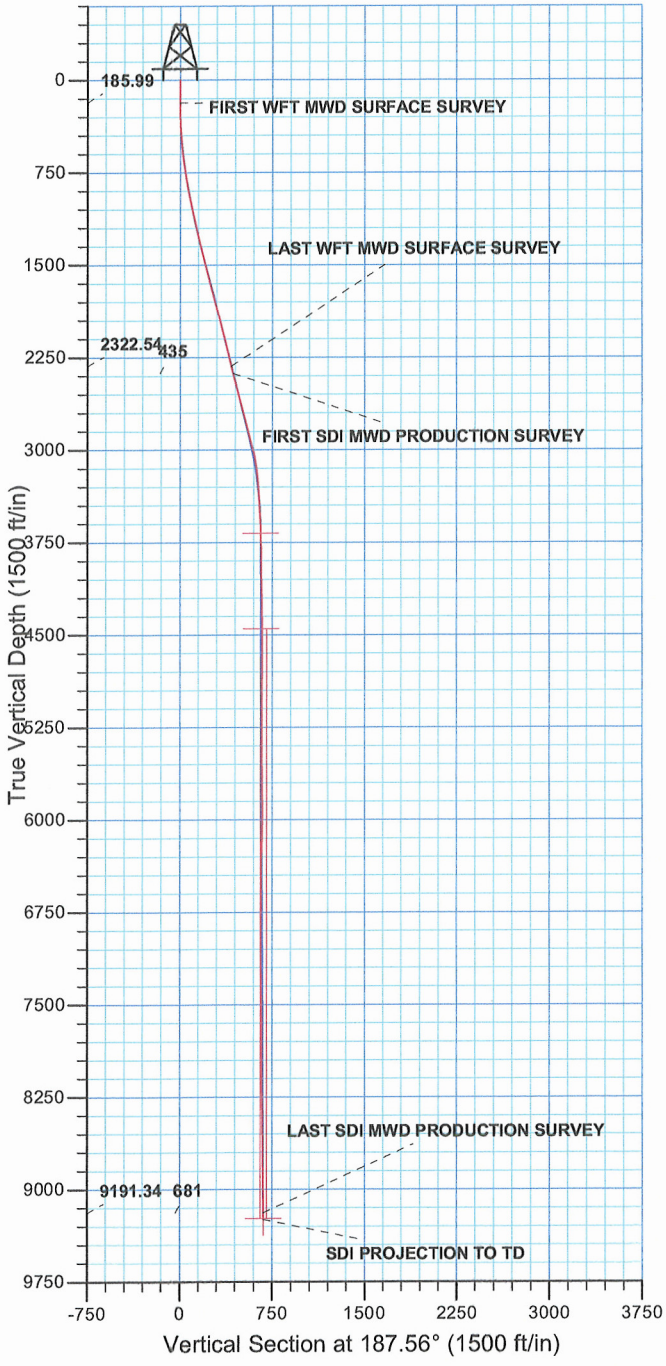
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-7C PAD
Well: NBU 1022-7F1CS
Wellbore: OH
Design: OH

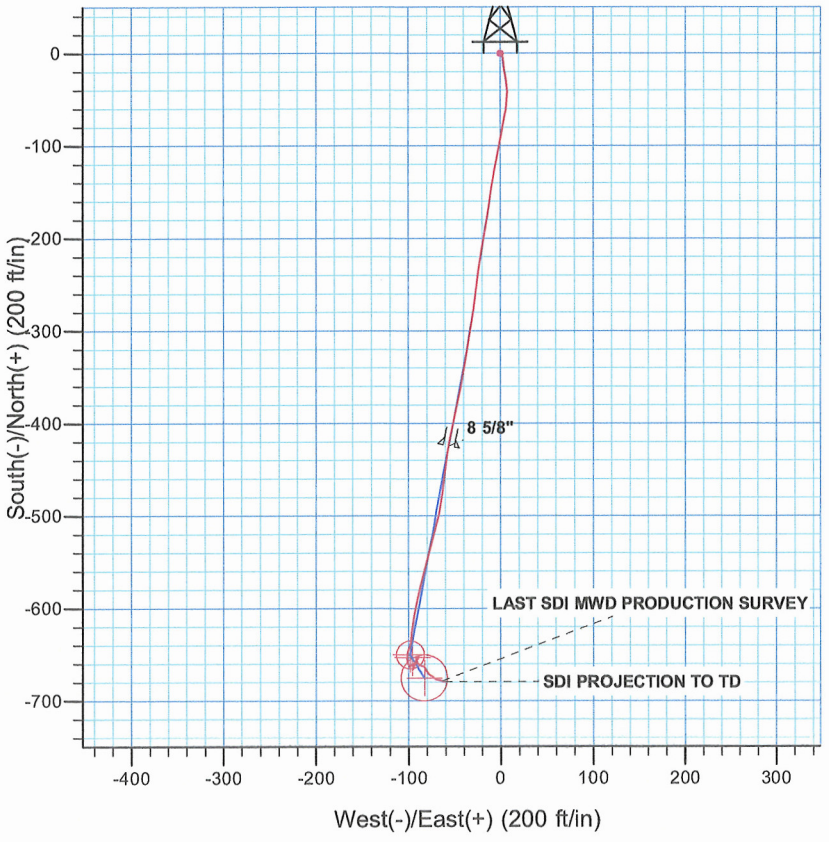
Anadarko Petroleum Corporation

WELL DETAILS: NBU 1022-7F1CS					
GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)					
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	14517947.67	2065627.95	39° 58' 4.186 N	109° 28' 56.812 W

Azimuths to True North
Magnetic North: 11.03°

Magnetic Field
Strength: 52287.6snT
Dip Angle: 65.84°
Date: 2011/09/14
Model: IGRF2010





PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
Location:	SECTION 7 T10S R22E
System Datum:	Mean Sea Level

Design: OH (NBU 1022-7F1CS/OH)
Created By: RobertScott Date: 17:03, October 05 2011

Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-7C PAD
NBU 1022-7F1CS

OH

Design: OH

Standard Survey Report

05 October, 2011

Anadarko
Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-7F1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Site:	NBU 1022-7C PAD	**MD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Well:	NBU 1022-7F1CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM5000-RobertS-Local

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 1022-7C PAD, SECTION 7 T10S R22E				
Site Position:		**Northing:**	14,517,947.67 usft	**Latitude:**	39° 58' 4.186 N
From:	Lat/Long	**Easting:**	2,065,627.95 usft	**Longitude:**	109° 28' 56.812 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.98 °

Well	NBU 1022-7F1CS, 1057' FNL, 2063' FWL					
Well Position	**+N/-S**	0.00 ft	**Northing:**	14,517,947.67 usft	**Latitude:**	39° 58' 4.186 N
	+E/-W	0.00 ft	**Easting:**	2,065,627.95 usft	**Longitude:**	109° 28' 56.812 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,161.00 ft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	2011/09/14	11.03	65.84	52,288

Design	OH					
Audit Notes:						
Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**		0.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**		
	0.00	0.00	0.00	187.56		

Survey Program **Date** 2011/10/05

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
10.00	2,370.00	Survey #1 WFT MWD SURFACE (OH)	MWD	MWD - Standard
2,431.00	9,320.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
186.00	0.78	100.27	185.99	-0.21	1.18	0.06	0.44	0.44	0.00
FIRST WFT MWD SURFACE SURVEY									
271.00	1.64	168.98	270.98	-1.51	1.98	1.24	1.81	1.01	80.84
358.00	2.75	174.35	357.91	-4.81	2.42	4.45	1.30	1.28	6.17
450.00	4.13	171.98	449.75	-10.29	3.10	9.79	1.51	1.50	-2.58
540.00	5.63	171.23	539.42	-17.86	4.23	17.15	1.67	1.67	-0.83
630.00	7.63	169.60	628.81	-28.10	5.98	27.07	2.23	2.22	-1.81
720.00	8.81	178.90	717.89	-40.87	7.19	39.57	1.97	1.31	10.33

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-7F1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Site:	NBU 1022-7C PAD	**MD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Well:	NBU 1022-7F1CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
840.00	9.56	189.23	836.36	-59.89	5.77	58.61	1.51	0.63	8.61
900.00	10.63	190.98	895.43	-70.24	3.92	69.12	1.85	1.78	2.92
990.00	11.94	190.48	983.69	-87.55	0.64	86.70	1.46	1.46	-0.56
1,080.00	12.63	190.48	1,071.62	-106.38	-2.84	105.83	0.77	0.77	0.00
1,170.00	13.44	190.48	1,159.30	-126.34	-6.53	126.10	0.90	0.90	0.00
1,260.00	13.28	189.64	1,246.87	-146.82	-10.17	146.88	0.28	-0.18	-0.93
1,350.00	13.31	186.98	1,334.46	-167.29	-13.16	167.57	0.68	0.03	-2.96
1,440.00	14.44	190.10	1,421.83	-188.62	-16.38	189.14	1.51	1.26	3.47
1,530.00	14.81	189.73	1,508.91	-211.01	-20.30	211.84	0.42	0.41	-0.41
1,620.00	14.50	188.35	1,595.99	-233.49	-23.88	234.60	0.52	-0.34	-1.53
1,710.00	14.13	186.35	1,683.19	-255.56	-26.73	256.85	0.69	-0.41	-2.22
1,800.00	14.75	188.60	1,770.35	-277.80	-29.66	279.29	0.93	0.69	2.50
1,890.00	14.38	190.10	1,857.46	-300.14	-33.33	301.91	0.59	-0.41	1.67
1,980.00	14.31	188.73	1,944.65	-322.13	-36.98	324.20	0.39	-0.08	-1.52
2,070.00	14.63	189.73	2,031.80	-344.33	-40.59	346.67	0.45	0.36	1.11
2,160.00	14.38	192.60	2,118.93	-366.44	-44.94	369.17	0.85	-0.28	3.19
2,250.00	14.19	191.35	2,206.15	-388.16	-49.55	391.31	0.40	-0.21	-1.39
2,370.00	13.98	191.43	2,322.54	-416.79	-55.32	420.44	0.18	-0.18	0.07
LAST WFT MWD SURFACE SURVEY									
2,431.00	13.55	189.12	2,381.79	-431.07	-57.91	434.94	1.14	-0.70	-3.79
FIRST SDI MWD PRODUCTION SURVEY									
2,521.00	14.26	186.53	2,469.15	-452.49	-60.85	456.56	1.05	0.79	-2.88
2,612.00	15.06	187.33	2,557.19	-475.35	-63.63	479.59	0.91	0.88	0.88
2,703.00	14.78	190.98	2,645.12	-498.47	-67.35	503.00	1.08	-0.31	4.01
2,793.00	15.07	196.31	2,732.09	-520.97	-72.82	526.02	1.56	0.32	5.92
2,884.00	15.25	195.56	2,819.92	-543.85	-79.35	549.57	0.29	0.20	-0.82
2,974.00	14.11	192.88	2,906.98	-565.95	-84.97	572.21	1.47	-1.27	-2.98
3,065.00	12.40	192.61	2,995.56	-586.30	-89.58	592.99	1.88	-1.88	-0.30
3,156.00	10.46	190.06	3,084.75	-603.97	-93.16	610.98	2.20	-2.13	-2.80
3,246.00	8.27	188.04	3,173.54	-618.43	-95.49	625.61	2.46	-2.43	-2.24
3,337.00	6.02	183.89	3,263.83	-629.67	-96.73	636.92	2.54	-2.47	-4.56
3,427.00	3.73	191.58	3,353.50	-637.25	-97.64	644.55	2.64	-2.54	8.54
3,517.00	1.89	203.78	3,443.39	-641.47	-98.82	648.90	2.14	-2.04	13.56
3,608.00	1.70	198.89	3,534.34	-644.12	-99.86	651.66	0.27	-0.21	-5.37
3,698.00	1.78	196.93	3,624.30	-646.72	-100.70	654.35	0.11	0.09	-2.18
3,789.00	1.40	194.21	3,715.27	-649.15	-101.39	656.85	0.43	-0.42	-2.99
3,880.00	1.67	183.97	3,806.24	-651.55	-101.75	659.28	0.42	0.30	-11.25
3,970.00	1.33	175.75	3,896.20	-653.90	-101.77	661.61	0.45	-0.38	-9.13
4,060.00	1.31	182.32	3,986.18	-655.97	-101.73	663.66	0.17	-0.02	7.30
4,151.00	1.38	171.64	4,077.16	-658.10	-101.61	665.75	0.29	0.08	-11.74
4,242.00	0.45	114.03	4,168.14	-659.33	-101.13	666.90	1.32	-1.02	-63.31
4,332.00	0.74	148.54	4,258.14	-659.97	-100.50	667.45	0.50	0.32	38.34
4,423.00	0.94	174.20	4,349.13	-661.21	-100.12	668.63	0.46	0.22	28.20

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-7F1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Site:	NBU 1022-7C PAD	**MD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Well:	NBU 1022-7F1CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,513.00	1.11	159.71	4,439.12	-662.76	-99.74	670.12	0.34	0.19	-16.10
4,604.00	0.85	62.14	4,530.11	-663.27	-98.84	670.51	1.63	-0.29	-107.22
4,694.00	1.11	44.19	4,620.09	-662.34	-97.64	669.43	0.44	0.29	-19.94
4,784.00	1.05	49.00	4,710.08	-661.17	-96.41	668.11	0.12	-0.07	5.34
4,875.00	0.87	62.37	4,801.07	-660.30	-95.17	667.08	0.31	-0.20	14.69
4,965.00	0.84	79.23	4,891.06	-659.86	-93.92	666.48	0.28	-0.03	18.73
5,056.00	1.02	90.28	4,982.04	-659.74	-92.45	666.17	0.28	0.20	12.14
5,146.00	0.44	246.71	5,072.04	-659.88	-91.97	666.25	1.59	-0.64	173.81
5,237.00	0.57	249.41	5,163.04	-660.18	-92.71	666.64	0.15	0.14	2.97
5,327.00	0.40	227.12	5,253.03	-660.55	-93.36	667.09	0.28	-0.19	-24.77
5,418.00	0.56	220.80	5,344.03	-661.10	-93.89	667.71	0.18	0.18	-6.95
5,508.00	0.29	238.60	5,434.03	-661.56	-94.37	668.22	0.33	-0.30	19.78
5,599.00	0.71	212.69	5,525.02	-662.15	-94.87	668.88	0.51	0.46	-28.47
5,689.00	0.72	216.86	5,615.02	-663.07	-95.51	669.87	0.06	0.01	4.63
5,779.00	0.70	170.06	5,705.01	-664.07	-95.75	670.89	0.63	-0.02	-52.00
5,870.00	0.80	173.86	5,796.00	-665.25	-95.59	672.04	0.12	0.11	4.18
5,960.00	0.20	113.17	5,886.00	-665.93	-95.38	672.69	0.80	-0.67	-67.43
6,051.00	0.95	25.28	5,977.00	-665.31	-94.91	672.02	1.06	0.82	-96.58
6,141.00	1.37	10.45	6,066.98	-663.58	-94.40	670.23	0.57	0.47	-16.48
6,232.00	1.35	16.51	6,157.95	-661.48	-93.89	668.08	0.16	-0.02	6.66
6,322.00	1.27	11.83	6,247.93	-659.49	-93.39	666.04	0.15	-0.09	-5.20
6,413.00	0.87	25.83	6,338.91	-657.88	-92.88	664.38	0.52	-0.44	15.38
6,503.00	0.84	45.12	6,428.90	-656.80	-92.11	663.21	0.32	-0.03	21.43
6,594.00	0.97	44.45	6,519.89	-655.78	-91.10	662.06	0.14	0.14	-0.74
6,684.00	0.92	43.59	6,609.88	-654.71	-90.07	660.87	0.06	-0.06	-0.96
6,775.00	1.02	26.78	6,700.87	-653.46	-89.20	659.52	0.33	0.11	-18.47
6,865.00	0.34	11.68	6,790.86	-652.48	-88.79	658.49	0.77	-0.76	-16.78
6,956.00	0.64	241.35	6,881.86	-652.46	-89.18	658.52	0.99	0.33	-143.22
7,046.00	0.68	249.70	6,971.85	-652.89	-90.12	659.07	0.12	0.04	9.28
7,137.00	0.42	236.90	7,062.85	-653.26	-90.91	659.54	0.31	-0.29	-14.07
7,227.00	0.35	235.63	7,152.84	-653.59	-91.41	659.94	0.08	-0.08	-1.41
7,318.00	0.48	210.33	7,243.84	-654.08	-91.83	660.48	0.24	0.14	-27.80
7,408.00	0.54	173.60	7,333.84	-654.83	-91.97	661.23	0.36	0.07	-40.81
7,499.00	0.61	161.82	7,424.83	-655.71	-91.78	662.09	0.15	0.08	-12.95
7,589.00	0.60	163.78	7,514.83	-656.62	-91.49	662.95	0.03	-0.01	2.18
7,680.00	0.93	159.56	7,605.82	-657.77	-91.10	664.04	0.37	0.36	-4.64
7,770.00	0.92	138.43	7,695.81	-658.99	-90.37	665.16	0.38	-0.01	-23.48
7,861.00	0.90	132.81	7,786.80	-660.03	-89.36	666.05	0.10	-0.02	-6.18
7,951.00	0.27	138.35	7,876.79	-660.67	-88.70	666.59	0.70	-0.70	6.16
8,042.00	0.80	100.94	7,967.79	-660.95	-87.93	666.77	0.67	0.58	-41.11
8,133.00	1.29	113.36	8,058.77	-661.47	-86.37	667.09	0.59	0.54	13.65
8,223.00	1.66	112.57	8,148.74	-662.38	-84.24	667.70	0.41	0.41	-0.88
8,314.00	0.98	136.76	8,239.72	-663.45	-82.49	668.53	0.95	-0.75	26.57
8,404.00	1.19	168.36	8,329.70	-664.92	-81.77	669.90	0.69	0.23	35.12

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-7F1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Site:	NBU 1022-7C PAD	**MD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Well:	NBU 1022-7F1CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,495.00	0.83	153.26	8,420.69	-666.44	-81.28	671.34	0.49	-0.40	-16.59
8,585.00	1.19	141.97	8,510.68	-667.76	-80.41	672.53	0.46	0.40	-12.54
8,675.00	1.35	141.82	8,600.65	-669.33	-79.18	673.93	0.18	0.18	-0.17
8,766.00	1.30	134.88	8,691.63	-670.90	-77.79	675.30	0.18	-0.05	-7.63
8,857.00	1.67	129.15	8,782.60	-672.46	-76.03	676.62	0.44	0.41	-6.30
8,947.00	1.67	126.61	8,872.56	-674.07	-73.96	677.94	0.08	0.00	-2.82
9,038.00	1.71	127.01	8,963.52	-675.68	-71.81	679.25	0.05	0.04	0.44
9,128.00	2.25	104.33	9,053.47	-676.93	-69.03	680.12	1.05	0.60	-25.20
9,219.00	2.54	103.48	9,144.39	-677.84	-65.34	680.54	0.32	0.32	-0.93
9,266.00	2.85	102.03	9,191.34	-678.32	-63.18	680.74	0.68	0.66	-3.09
LAST SDI MWD PRODUCTION SURVEY									
9,320.00	2.85	102.03	9,245.27	-678.88	-60.55	680.95	0.00	0.00	0.00
SDI PROJECTION TO TD									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
186.00	185.99	-0.21	1.18	FIRST WFT MWD SURFACE SURVEY
2,370.00	2,322.54	-416.79	-55.32	LAST WFT MWD SURFACE SURVEY

Checked By: _____ Approved By: _____ Date: _____

Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-7C PAD
NBU 1022-7F1CS

OH

Design: OH

Survey Report - Geographic

05 October, 2011

Anadarko
Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-7F1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Site:	NBU 1022-7C PAD	**MD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Well:	NBU 1022-7F1CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM5000-RobertS-Local

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 1022-7C PAD, SECTION 7 T10S R22E				
Site Position:		**Northing:**	14,517,947.67 usft	**Latitude:**	39° 58' 4.186 N
From:	Lat/Long	**Easting:**	2,065,627.95 usft	**Longitude:**	109° 28' 56.812 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.98 °

Well	NBU 1022-7F1CS, 1057' FNL, 2063' FWL					
Well Position	**+N/-S**	0.00 ft	**Northing:**	14,517,947.67 usft	**Latitude:**	39° 58' 4.186 N
	+E/-W	0.00 ft	**Easting:**	2,065,627.95 usft	**Longitude:**	109° 28' 56.812 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,161.00 ft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	2011/09/14	11.03	65.84	52,288

Design	OH					
Audit Notes:						
Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**		0.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**		
	0.00	0.00	0.00	187.56		

Survey Program	**Date** 2011/10/05			
From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
10.00	2,370.00	Survey #1 WFT MWD SURFACE (OH)	MWD	MWD - Standard
2,431.00	9,320.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,517,947.67	2,065,627.95	39° 58' 4.186 N	109° 28' 56.812 W
10.00	0.00	0.00	10.00	0.00	0.00	14,517,947.67	2,065,627.95	39° 58' 4.186 N	109° 28' 56.812 W
186.00	0.78	100.27	185.99	-0.21	1.18	14,517,947.48	2,065,629.13	39° 58' 4.184 N	109° 28' 56.797 W
FIRST WFT MWD SURFACE SURVEY									
271.00	1.64	168.98	270.98	-1.51	1.98	14,517,946.20	2,065,629.95	39° 58' 4.171 N	109° 28' 56.786 W
358.00	2.75	174.35	357.91	-4.81	2.42	14,517,942.91	2,065,630.45	39° 58' 4.138 N	109° 28' 56.781 W
450.00	4.13	171.98	449.75	-10.29	3.10	14,517,937.44	2,065,631.22	39° 58' 4.084 N	109° 28' 56.772 W
540.00	5.63	171.23	539.42	-17.86	4.23	14,517,929.89	2,065,632.48	39° 58' 4.009 N	109° 28' 56.758 W
630.00	7.63	169.60	628.81	-28.10	5.98	14,517,919.68	2,065,634.40	39° 58' 3.908 N	109° 28' 56.735 W
720.00	8.81	178.90	717.89	-40.87	7.19	14,517,906.93	2,065,635.83	39° 58' 3.782 N	109° 28' 56.719 W
840.00	9.56	189.23	836.36	-59.89	5.77	14,517,887.89	2,065,634.73	39° 58' 3.594 N	109° 28' 56.738 W

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-7F1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Site:	NBU 1022-7C PAD	**MD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Well:	NBU 1022-7F1CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
900.00	10.63	190.98	895.43	-70.24	3.92	14,517,877.51	2,065,633.06	39° 58' 3.492 N	109° 28' 56.762 W
990.00	11.94	190.48	983.69	-87.55	0.64	14,517,860.15	2,065,630.08	39° 58' 3.321 N	109° 28' 56.804 W
1,080.00	12.63	190.48	1,071.62	-106.38	-2.84	14,517,841.26	2,065,626.92	39° 58' 3.134 N	109° 28' 56.848 W
1,170.00	13.44	190.48	1,159.30	-126.34	-6.53	14,517,821.24	2,065,623.56	39° 58' 2.937 N	109° 28' 56.896 W
1,260.00	13.28	189.64	1,246.87	-146.82	-10.17	14,517,800.71	2,065,620.28	39° 58' 2.735 N	109° 28' 56.942 W
1,350.00	13.31	186.98	1,334.46	-167.29	-13.16	14,517,780.18	2,065,617.64	39° 58' 2.532 N	109° 28' 56.981 W
1,440.00	14.44	190.10	1,421.83	-188.62	-16.38	14,517,758.80	2,065,614.77	39° 58' 2.321 N	109° 28' 57.022 W
1,530.00	14.81	189.73	1,508.91	-211.01	-20.30	14,517,736.35	2,065,611.24	39° 58' 2.100 N	109° 28' 57.073 W
1,620.00	14.50	188.35	1,595.99	-233.49	-23.88	14,517,713.81	2,065,608.05	39° 58' 1.878 N	109° 28' 57.119 W
1,710.00	14.13	186.35	1,683.19	-255.56	-26.73	14,517,691.70	2,065,605.57	39° 58' 1.660 N	109° 28' 57.155 W
1,800.00	14.75	188.60	1,770.35	-277.80	-29.66	14,517,669.41	2,065,603.02	39° 58' 1.440 N	109° 28' 57.193 W
1,890.00	14.38	190.10	1,857.46	-300.14	-33.33	14,517,647.01	2,065,599.73	39° 58' 1.219 N	109° 28' 57.240 W
1,980.00	14.31	188.73	1,944.65	-322.13	-36.98	14,517,624.96	2,065,596.46	39° 58' 1.002 N	109° 28' 57.287 W
2,070.00	14.63	189.73	2,031.80	-344.33	-40.59	14,517,602.71	2,065,593.23	39° 58' 0.782 N	109° 28' 57.333 W
2,160.00	14.38	192.60	2,118.93	-366.44	-44.94	14,517,580.52	2,065,589.24	39° 58' 0.564 N	109° 28' 57.389 W
2,250.00	14.19	191.35	2,206.15	-388.16	-49.55	14,517,558.73	2,065,585.01	39° 58' 0.349 N	109° 28' 57.448 W
2,370.00	13.98	191.43	2,322.54	-416.79	-55.32	14,517,530.01	2,065,579.73	39° 58' 0.066 N	109° 28' 57.522 W
LAST WFT MWD SURFACE SURVEY									
2,431.00	13.55	189.12	2,381.79	-431.07	-57.91	14,517,515.69	2,065,577.38	39° 57' 59.925 N	109° 28' 57.556 W
FIRST SDI MWD PRODUCTION SURVEY									
2,521.00	14.26	186.53	2,469.15	-452.49	-60.85	14,517,494.22	2,065,574.81	39° 57' 59.713 N	109° 28' 57.593 W
2,612.00	15.06	187.33	2,557.19	-475.35	-63.63	14,517,471.31	2,065,572.42	39° 57' 59.487 N	109° 28' 57.629 W
2,703.00	14.78	190.98	2,645.12	-498.47	-67.35	14,517,448.13	2,065,569.09	39° 57' 59.259 N	109° 28' 57.677 W
2,793.00	15.07	196.31	2,732.09	-520.97	-72.82	14,517,425.54	2,065,564.00	39° 57' 59.036 N	109° 28' 57.747 W
2,884.00	15.25	195.56	2,819.92	-543.85	-79.35	14,517,402.55	2,065,557.86	39° 57' 58.810 N	109° 28' 57.831 W
2,974.00	14.11	192.88	2,906.98	-565.95	-84.97	14,517,380.36	2,065,552.62	39° 57' 58.592 N	109° 28' 57.903 W
3,065.00	12.40	192.61	2,995.56	-586.30	-89.58	14,517,359.93	2,065,548.36	39° 57' 58.391 N	109° 28' 57.963 W
3,156.00	10.46	190.06	3,084.75	-603.97	-93.16	14,517,342.21	2,065,545.08	39° 57' 58.216 N	109° 28' 58.008 W
3,246.00	8.27	188.04	3,173.54	-618.43	-95.49	14,517,327.71	2,065,543.00	39° 57' 58.073 N	109° 28' 58.038 W
3,337.00	6.02	183.89	3,263.83	-629.67	-96.73	14,517,316.45	2,065,541.95	39° 57' 57.962 N	109° 28' 58.054 W
3,427.00	3.73	191.58	3,353.50	-637.25	-97.64	14,517,308.86	2,065,541.17	39° 57' 57.887 N	109° 28' 58.066 W
3,517.00	1.89	203.78	3,443.39	-641.47	-98.82	14,517,304.61	2,065,540.05	39° 57' 57.845 N	109° 28' 58.081 W
3,608.00	1.70	198.89	3,534.34	-644.12	-99.86	14,517,301.95	2,065,539.06	39° 57' 57.819 N	109° 28' 58.095 W
3,698.00	1.78	196.93	3,624.30	-646.72	-100.70	14,517,299.33	2,065,538.26	39° 57' 57.793 N	109° 28' 58.105 W
3,789.00	1.40	194.21	3,715.27	-649.15	-101.39	14,517,296.89	2,065,537.62	39° 57' 57.769 N	109° 28' 58.114 W
3,880.00	1.67	183.97	3,806.24	-651.55	-101.75	14,517,294.48	2,065,537.30	39° 57' 57.746 N	109° 28' 58.119 W
3,970.00	1.33	175.75	3,896.20	-653.90	-101.77	14,517,292.13	2,065,537.32	39° 57' 57.722 N	109° 28' 58.119 W
4,060.00	1.31	182.32	3,986.18	-655.97	-101.73	14,517,290.07	2,065,537.39	39° 57' 57.702 N	109° 28' 58.119 W
4,151.00	1.38	171.64	4,077.16	-658.10	-101.61	14,517,287.94	2,065,537.55	39° 57' 57.681 N	109° 28' 58.117 W
4,242.00	0.45	114.03	4,168.14	-659.33	-101.13	14,517,286.72	2,065,538.05	39° 57' 57.669 N	109° 28' 58.111 W
4,332.00	0.74	148.54	4,258.14	-659.97	-100.50	14,517,286.09	2,065,538.69	39° 57' 57.662 N	109° 28' 58.103 W
4,423.00	0.94	174.20	4,349.13	-661.21	-100.12	14,517,284.86	2,065,539.09	39° 57' 57.650 N	109° 28' 58.098 W
4,513.00	1.11	159.71	4,439.12	-662.76	-99.74	14,517,283.31	2,065,539.50	39° 57' 57.635 N	109° 28' 58.093 W
4,604.00	0.85	62.14	4,530.11	-663.27	-98.84	14,517,282.82	2,065,540.41	39° 57' 57.630 N	109° 28' 58.081 W
4,694.00	1.11	44.19	4,620.09	-662.34	-97.64	14,517,283.77	2,065,541.59	39° 57' 57.639 N	109° 28' 58.066 W
4,784.00	1.05	49.00	4,710.08	-661.17	-96.41	14,517,284.96	2,065,542.80	39° 57' 57.651 N	109° 28' 58.050 W
4,875.00	0.87	62.37	4,801.07	-660.30	-95.17	14,517,285.85	2,065,544.03	39° 57' 57.659 N	109° 28' 58.034 W
4,965.00	0.84	79.23	4,891.06	-659.86	-93.92	14,517,286.31	2,065,545.27	39° 57' 57.663 N	109° 28' 58.018 W
5,056.00	1.02	90.28	4,982.04	-659.74	-92.45	14,517,286.45	2,065,546.73	39° 57' 57.665 N	109° 28' 57.999 W
5,146.00	0.44	246.71	5,072.04	-659.88	-91.97	14,517,286.32	2,065,547.22	39° 57' 57.663 N	109° 28' 57.993 W
5,237.00	0.57	249.41	5,163.04	-660.18	-92.71	14,517,286.01	2,065,546.48	39° 57' 57.660 N	109° 28' 58.003 W
5,327.00	0.40	227.12	5,253.03	-660.55	-93.36	14,517,285.63	2,065,545.84	39° 57' 57.657 N	109° 28' 58.011 W
5,418.00	0.56	220.80	5,344.03	-661.10	-93.89	14,517,285.07	2,065,545.32	39° 57' 57.651 N	109° 28' 58.018 W
5,508.00	0.29	238.60	5,434.03	-661.56	-94.37	14,517,284.61	2,065,544.85	39° 57' 57.647 N	109° 28' 58.024 W
5,599.00	0.71	212.69	5,525.02	-662.15	-94.87	14,517,284.01	2,065,544.36	39° 57' 57.641 N	109° 28' 58.030 W

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-7F1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Site:	NBU 1022-7C PAD	**MD Reference:**	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
Well:	NBU 1022-7F1CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,689.00	0.72	216.86	5,615.02	-663.07	-95.51	14,517,283.07	2,065,543.74	39° 57' 57.632 N	109° 28' 58.039 W
5,779.00	0.70	170.06	5,705.01	-664.07	-95.75	14,517,282.08	2,065,543.51	39° 57' 57.622 N	109° 28' 58.042 W
5,870.00	0.80	173.86	5,796.00	-665.25	-95.59	14,517,280.90	2,065,543.69	39° 57' 57.610 N	109° 28' 58.040 W
5,960.00	0.20	113.17	5,886.00	-665.93	-95.38	14,517,280.22	2,065,543.91	39° 57' 57.604 N	109° 28' 58.037 W
6,051.00	0.95	25.28	5,977.00	-665.31	-94.91	14,517,280.84	2,065,544.37	39° 57' 57.610 N	109° 28' 58.031 W
6,141.00	1.37	10.45	6,066.98	-663.58	-94.40	14,517,282.59	2,065,544.86	39° 57' 57.627 N	109° 28' 58.024 W
6,232.00	1.35	16.51	6,157.95	-661.48	-93.89	14,517,284.69	2,065,545.32	39° 57' 57.647 N	109° 28' 58.018 W
6,322.00	1.27	11.83	6,247.93	-659.49	-93.39	14,517,286.69	2,065,545.79	39° 57' 57.667 N	109° 28' 58.011 W
6,413.00	0.87	25.83	6,338.91	-657.88	-92.88	14,517,288.31	2,065,546.27	39° 57' 57.683 N	109° 28' 58.005 W
6,503.00	0.84	45.12	6,428.90	-656.80	-92.11	14,517,289.40	2,065,547.02	39° 57' 57.694 N	109° 28' 57.995 W
6,594.00	0.97	44.45	6,519.89	-655.78	-91.10	14,517,290.44	2,065,548.02	39° 57' 57.704 N	109° 28' 57.982 W
6,684.00	0.92	43.59	6,609.88	-654.71	-90.07	14,517,291.52	2,065,549.03	39° 57' 57.714 N	109° 28' 57.969 W
6,775.00	1.02	26.78	6,700.87	-653.46	-89.20	14,517,292.79	2,065,549.88	39° 57' 57.727 N	109° 28' 57.958 W
6,865.00	0.34	11.68	6,790.86	-652.48	-88.79	14,517,293.78	2,065,550.28	39° 57' 57.736 N	109° 28' 57.952 W
6,956.00	0.64	241.35	6,881.86	-652.46	-89.18	14,517,293.79	2,065,549.88	39° 57' 57.737 N	109° 28' 57.957 W
7,046.00	0.68	249.70	6,971.85	-652.89	-90.12	14,517,293.35	2,065,548.95	39° 57' 57.732 N	109° 28' 57.969 W
7,137.00	0.42	236.90	7,062.85	-653.26	-90.91	14,517,292.96	2,065,548.17	39° 57' 57.729 N	109° 28' 57.980 W
7,227.00	0.35	235.63	7,152.84	-653.59	-91.41	14,517,292.62	2,065,547.67	39° 57' 57.725 N	109° 28' 57.986 W
7,318.00	0.48	210.33	7,243.84	-654.08	-91.83	14,517,292.13	2,065,547.26	39° 57' 57.721 N	109° 28' 57.991 W
7,408.00	0.54	173.60	7,333.84	-654.83	-91.97	14,517,291.38	2,065,547.13	39° 57' 57.713 N	109° 28' 57.993 W
7,499.00	0.61	161.82	7,424.83	-655.71	-91.78	14,517,290.50	2,065,547.34	39° 57' 57.705 N	109° 28' 57.991 W
7,589.00	0.60	163.78	7,514.83	-656.62	-91.49	14,517,289.59	2,065,547.64	39° 57' 57.696 N	109° 28' 57.987 W
7,680.00	0.93	159.56	7,605.82	-657.77	-91.10	14,517,288.45	2,065,548.05	39° 57' 57.684 N	109° 28' 57.982 W
7,770.00	0.92	138.43	7,695.81	-658.99	-90.37	14,517,287.24	2,065,548.80	39° 57' 57.672 N	109° 28' 57.973 W
7,861.00	0.90	132.81	7,786.80	-660.03	-89.36	14,517,286.22	2,065,549.83	39° 57' 57.662 N	109° 28' 57.960 W
7,951.00	0.27	138.35	7,876.79	-660.67	-88.70	14,517,285.60	2,065,550.50	39° 57' 57.656 N	109° 28' 57.951 W
8,042.00	0.80	100.94	7,967.79	-660.95	-87.93	14,517,285.33	2,065,551.27	39° 57' 57.653 N	109° 28' 57.941 W
8,133.00	1.29	113.36	8,058.77	-661.47	-86.37	14,517,284.83	2,065,552.84	39° 57' 57.648 N	109° 28' 57.921 W
8,223.00	1.66	112.57	8,148.74	-662.38	-84.24	14,517,283.96	2,065,554.99	39° 57' 57.639 N	109° 28' 57.894 W
8,314.00	0.98	136.75	8,239.72	-663.45	-82.49	14,517,282.92	2,065,556.76	39° 57' 57.628 N	109° 28' 57.871 W
8,404.00	1.19	168.36	8,329.70	-664.92	-81.77	14,517,281.46	2,065,557.50	39° 57' 57.613 N	109° 28' 57.862 W
8,495.00	0.83	153.26	8,420.69	-666.44	-81.28	14,517,279.95	2,065,558.02	39° 57' 57.599 N	109° 28' 57.856 W
8,585.00	1.19	141.97	8,510.68	-667.76	-80.41	14,517,278.65	2,065,558.91	39° 57' 57.585 N	109° 28' 57.845 W
8,675.00	1.35	141.82	8,600.65	-669.33	-79.18	14,517,277.10	2,065,560.16	39° 57' 57.570 N	109° 28' 57.829 W
8,766.00	1.30	134.88	8,691.63	-670.90	-77.79	14,517,275.55	2,065,561.59	39° 57' 57.554 N	109° 28' 57.811 W
8,857.00	1.67	129.15	8,782.60	-672.46	-76.03	14,517,274.02	2,065,563.37	39° 57' 57.539 N	109° 28' 57.788 W
8,947.00	1.67	126.61	8,872.56	-674.07	-73.96	14,517,272.44	2,065,565.47	39° 57' 57.523 N	109° 28' 57.762 W
9,038.00	1.71	127.01	8,963.52	-675.68	-71.81	14,517,270.87	2,065,567.64	39° 57' 57.507 N	109° 28' 57.734 W
9,128.00	2.25	104.33	9,053.47	-676.93	-69.03	14,517,269.67	2,065,570.45	39° 57' 57.495 N	109° 28' 57.699 W
9,219.00	2.54	103.48	9,144.39	-677.84	-65.34	14,517,268.82	2,065,574.16	39° 57' 57.486 N	109° 28' 57.651 W
9,266.00	2.85	102.03	9,191.34	-678.32	-63.18	14,517,268.37	2,065,576.32	39° 57' 57.481 N	109° 28' 57.623 W
LAST SDI MWD PRODUCTION SURVEY									
9,320.00	2.85	102.03	9,245.27	-678.88	-60.55	14,517,267.86	2,065,578.95	39° 57' 57.475 N	109° 28' 57.590 W
SDI PROJECTION TO TD									